प्राचीन नेपाल

पुरातत्त्व विभागको द्वैमासिक मुखपत्र

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असार-माघ २०४९

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June-January 1992-93

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प्रधान सम्पादक
खड्गमान श्रेष्ठ
सम्पादकहरु
तारानन्द मिश्र
श्रीमती ऋद्धि प्रधान

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विषय सूची
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A Few Words

Nepal is endowed with rich national heritage. Exploration of the antiquities which reveal the civilization and culture of ancient times is still in its preliminary stage. Many of the antiquities have still remained hidden. Such treasures could not have been exposed in a scientific way. The sporadic traces of culture and civilization somehow or other takes us even to the prehistoric times. So far exploration has not been undertaken on the basis of regional distribution of the country. Unlike the exploration in the terai and hilly region, exploration in the Himalayan range has not been done. There were human settlements in the high mountain areas in the caves, valleys and alongside the river-beds etc. since time immemorial. Archaeological investigations in these areas are in a very limited form. National history has not been written on the basis of archaeological evidences covering all areas.

Since a long time, transit trade to Tibet passed through Nepal. Among many passes which commanded the trade route to Tibet, Mustang was one of them. The literary sources testify the fact that Nepal had flourishing trade with Tibet. Nepal's interaction with Tibet had its impact on each other's culture. We find the traces of settlements in the high mountain areas in the remote areas in the past. Indications of indigenous culture are also apparent. Archaeological evidences in the caves in those areas would certainly take us back to a pre-historic period. If scientific and systematic investigations could be carried out in those areas we would be able to give an account of the chronological history of the area and trace their eventful life and culture. Careful and scientific analysis of the antiquities, therefore, is imperative.

With this aim in view His Majesty's Government, Ministry of Education and Culture, Department of Archaeology signed an agreement with Coulfield-Meisezahl Institute for High Asian Studies, Bonn on the 22nd of November 1990, for the archaeological exploration of cave settlements in the high mountain areas of Mustang district, Dhaulagiri zone, Western development region of Nepal. This project is known as a Nepal German Project on High Mountain Archaeology. The project made the provision of training two archaeologists, who would be involved in the actual excavation works at the Institute of Prehistory University of Cologne, Federal Republic of Germany. It also provided permission for the transport of a selected number of findings to Germany for the purpose of scientific analysis in the laboratories of the Institute for Prehistory, Cologne. The Coulfield Meisezahl Institute for High Asian Studies, Bonn (CIHS) would be responsible for ultimately returning all these objects to Nepal after an appropriate time after study. The project also provided for establishing a committee to assist and support the execution of the project, which composed of equal number of representatives nominated by HMG/N and CIHS. The project would remain valid for the period of five years and could be extended and amended by mutual consent of the parties. The project is being financed by CIHS.

The project committee decided to publish a special issue of 'Ancient Nepal', the two-monthly journal of the Dept. of Archaeology. This issue includes the report about the findings of the archaeological works carried out in the lower Mustang area. In other words, the articles throw light on the different dimensions of exploration carried out in the Muktinath valley. The scientific analysis of the findings, the procedure adopted for the research work are all included in this report.

The article of Mr. Angela Simons entitled "Trial Excavation of a Cave System in Muktinath Valley" gives an account of cave system. She also refers to the study made by G. Tucci in (1953-55), the first investigation done by Prof. Dr. Dieter Schuh, Director General of CIHS in 1987, the preliminary archaeological investigation of 1990 and the systematic archaeological work carried out within the framework of Nepal German Project on High Mountain Archaeology which began in spring 1992. Charles Ramble's article on "Ritual of Political Unity in an old Nepalese Kingdom" throws light on the political organisation of the settlements based on religious rites. He has analysed *m'dos* ritual in detail and by taking a case study of a group of eighteen settlements that once constituted a kingdom. To refer to the author the *m'dos* rite was performed for the purification of the settlement. He also gives an account of the performance of the *Loyak* - the yak sacrifice and its evolution with the influence of Bon and Buddhism. The writer has tried to reveal the cultural elements which unify the people of the settlement.

Dr. B. Schmidt's article entitled "Dendrochronological Research in South Mustang" has elaborately mentioned the scientific research process i.e. the tree ring research to co-relate the wooden specimens for dating purposes.

Dr. Rainer Graafen and Christian Seeber's article on "Important Trade Routes in Nepal and Their Importance to the Settlement Process" analytically deals with the impact of trade in the settlement process. Scientific research process adopted to reveal maintenance of trade route mainly focus the community involvement on making the economy of the settlement areas.

Dr. Niels Gutschow's article on "Chörten in Mustang" gives a preliminary architectural account of Chörten with special reference to the Chörten of the cave at Luri. The author has given detail account of the paintings and regards them as of extraordinary quality. They are regarded as photographic evidence of the 14th century. The style of the paintings according to the author shows a peculiar blend of influences from Nepal to the south and Tibet and China to the north.

Thus the articles included in this edition will throw light on different dimensions of life and culture of the past. Further research works in the upper part of Mustang will bring about more information and explore the hidden treasure of high mountain areas.

The editorial board is indebted to Prof. Dr. Dieter Schuh for editing all the reports of the scientists and scholars befiting to the standard. We have treated him as the Co-editor of this journal.

We owe our sincere gratefulness to the Coulfield Meisezahl Institute for High Asian Studies (Bonn) for financial assistance for the publication of this journal and for the conduction of the project by providing necessary equipments and the resource persons. We anticipate that this cooperation will be further extended in the future.

Mr. Chandra Prasad Tripathee and Mr. Sukra Sagar Shrestha are being involved in this project as representatives from the Department. The Department is thankful to them.

- Khadga Man Shrestha

Introduction

In 1985 I untertook my first journey to the southern Mustang and the Muktinath valley in search of historical documents related to that area. One of the things I came across there that impressed me most was the great number of caves dug into the hills on the northern bank of the Dzong-river. These caves can easily be seen by any pilgrim or tourist, who travels from the banks of the Kaligandaki up to the holy shrine of Muktinath. Since no information about these caves could be obtained from the local informants, I ventured a short exploration trip from Dzarkot to the cave systems below the Dzong-village. My first view on these caves convinced me that they were constructed by men, who might have lived there or used them for storage of their goods. One bigger cave had painted walls. There were several caves that were closed by walls or connected by small paths. Traces of human activities, however, could be seen everywhere.

In 1986 and 1987 I made several other trips to Nepal. Thanks to the company of Prof. R. Bielmeier, Dr. C. Cueppers and Dr. Schmidt it was possible for me to undertake a first very preliminary survey of the said cave-systems below the Dzong-village with the aim to obtain more information about them. The results will be published in one of the coming issues of the Ancient Nepal.

Back in Kathmandu I was convinced that we had explored the remnants of an old culture and civilisation, which had been completely forgotten and which was important enough to be studied extensively. On the prospects of realizing a research project I first had talks with Dr. Harka Gurung. He not only encouraged me to pursue this venture, but also drew my attention to a rockcutcave burial site discovered in Chokhopani, a place above the left bank of the Kaligandaki near Tukche. Moreover, Dr. Harka Gurung had collected first sight information about the cave-systems in the northern Mustang during his trip to this area. He kindly gave me access to his records and photos of these caves. I have to acknowledge with gratitude that without the encouragement of Dr. Harka Gurung, I would not have tried to enact this project.

Subsequently, I held official talks with Ramesh Jung Thapa, the then Secretary in the Ministry of Education of His Majesty's Government, Dr. Saphalya Amatya, the then Acting Director General of the Department of Archaeology and Janak Lal Sharma, the retired Director of that department. Due to their favourable response to my plans I submitted to His Majesty's Government in January 1989 a research proposal for a joint Nepal-German archaeological project concerning high mountain archaeology on prehistoric dwellings in the Mustang area. The text of this proposal is attached at the end of this introduction.

Subsequently, an agreement between the Department of Archaeology and the Coulfield-Meisezahl Institute (Bonn) was drafted and signed in November 1991. In May 1992 the actual work of the Nepal-German project on High-Mountain

Archaeology started. The project was and is able to pursue its programme with the financial aid granted by the German Research Society.

From the beginning of the project it was clear to me that the archaeological findings can be understood properly only in a wider context of knowledge of the historical, geographical, cultural and anthropological patterns. Moreover, to understand the origination and disappearance of the cave-civilisation of Mustang it has to be studied in the context of general settlement history of the area concerned. For these reasons the project was started from the very beginning with the participation of specialists in the field of architecture, geography, history and anthropology.

The project has now become able to submit the first reports on its findings to the Department of Archaeology. These reports are published in this volume and we hope to publish more in subsequent issues as well of the Ancient Nepal. Most probably some of our early propositions may not come out true. That counts especially on our early suggestions about the age of the cave-civilisation, albeit the date of 800 B.C. has recently been established by the work of Dr. A. Simons and her team. The same holds good of the connections recently established between the Chokhopani culture of the rockcutcave burial sites and the caves of the Muktinath valley.

- *Dieter Schuh*

The Text of the Proposal

Prof. Dr. Dieter Schuh
Seminar für Sprach- und Kultur-
wissenschaft Zentralasiens
Universität Bonn

53 Bonn 1
Regina Pacis Weg 7
29.1.1989

To
The Department of Archaeology
Ministry of Education
His Majesty's Government
Kathmandu/Nepal

RESEARCH PROPOSAL JOINT NEPAL-GERMAN ARCHAEOLOGICAL RESEARCH PROJECT HIGH MOUNTAIN ARCHAEOLOGY ON PREHISTORIC DWELLINGS IN THE MUSTANG ZONE

PREAMBLE

High mountain archaeology in the Himalayas is the search for the prehistoric man, who lived in high altitude areas above three thousand meters more than two thousand years ago. Very little research has been done on the prehistoric man and his culture in these areas although the enormous traces of his civilisation in form of huge cave dwellings settlements are still existent in different parts of the Himalayas.

LADAKH
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Ganges
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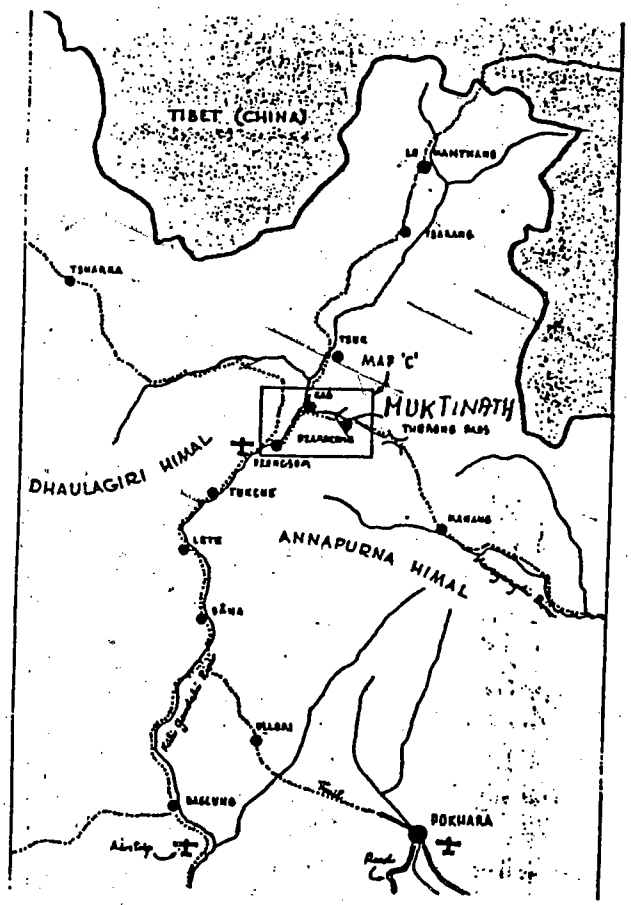
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Airstrip

A joint study and research group of research scholars from Nepal and Germany has decided to devote itself to the ambitious task of exploring the history and culture of a highly sophisticated civilisation which is entirely forgotten and which dominated the routes between Nepal and the Tibetan highlands in the area of the Mustang Zone more than 2000 years ago.

The project will contribute essentially to our knowledge of the origin of the population of present Nepal.

1. GENERAL INTRODUCTION

The systematic research in high mountain archaeology of the Himalayas is still in its very beginning.

Sporadical work was undertaken by Chinese scholars in eastern Tibet, where neolithic settlements were discovered and excavated in 1978 and 1979.

During the last years a joint Pakistani-German study group under the guidance of Prof. Jettmar from Heidelberg University undertook a systematic exploration survey of archaeological sites and ancient rock-carvings along the Karakorum highway.

Other discoveries were fortuitous results of construction work for water channels of electrical power plants. The most important discovery of this type was the finding of a megalithic rockcutcave burial site near Tukche. These findings were described in detail by Devendra Nath Tiwari in his remarkable article "Cave Burials from Western Nepal, Mustang" (In: Ancient Nepal, Number 85, pp. 1 - 12). In his article D.N. Tiwari points out that the major obstacle to the progress of research on the prehistory of Nepal is the lack of systematic excavations and he remarks: "The pre-history of Nepal is such as is based essentially on objects found by chance or on those remains which have survived."

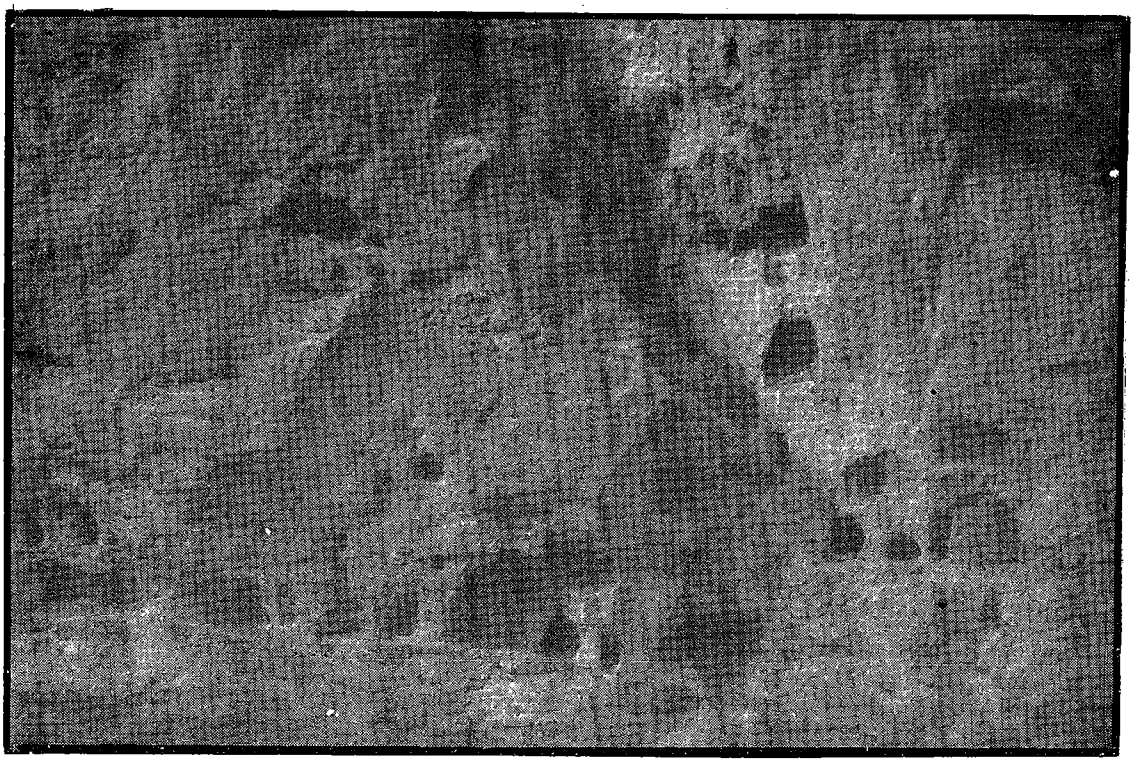
2. HIGH ALTITUDE CAVE-SETTLEMENTS IN NEPAL

In his book on Western-Tibet, published under the title Kailash-Manasarovar, the Indian scholar Swami Pranavananda gives the description of an area, which is situated south of the holy Kailash and commonly known as Purang. About this area which is formed by a valley of the river Karnali, Swami Pranavananda writes:

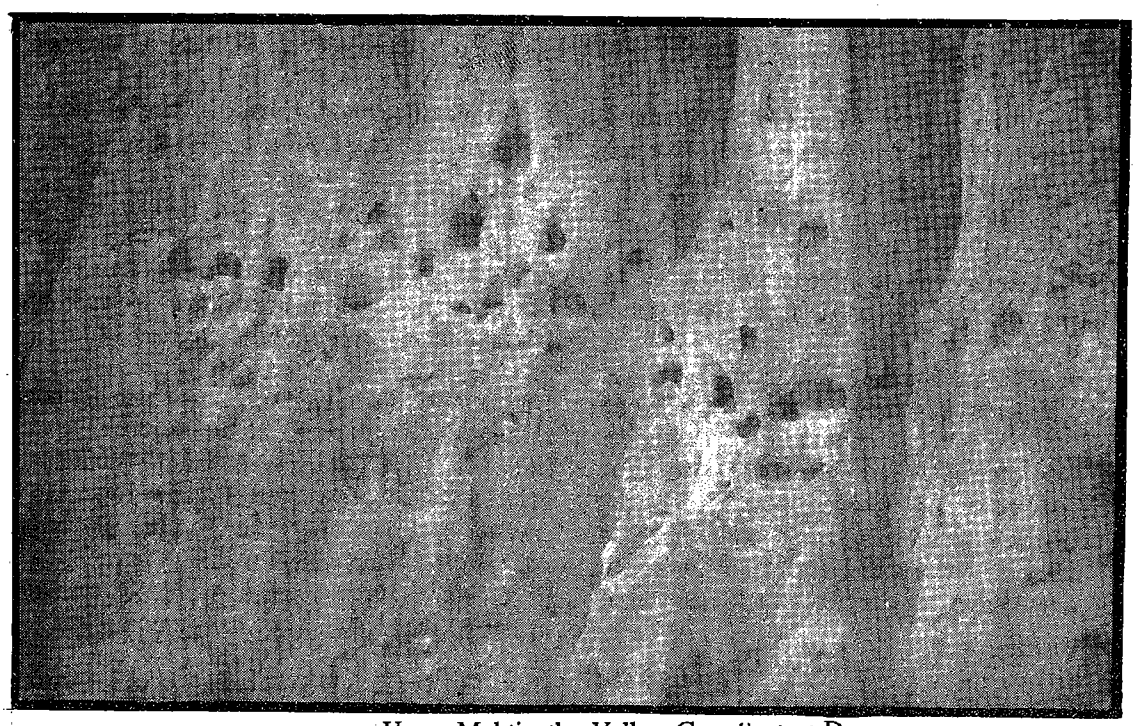
"A part of the population of Purang lives also in caves dug into the conglomerate walls of hills which are made into regular houses by the construction of walls and gates in the front side. Some caves are even two or three-storeyed high."

Swami Pranavananda mentions numerous cave settlements which were completely deserted and which consisted of hundreds of caves. Similar observations referring to the same area were made and published by Lama Anakarika Govinda in 1966 and by a China-Japan joint friendship expedition in 1986. Nobody ever did undertake any research into the origin and history of these settlements of an enormous size. Their origin and history is even now-a-days completely unknown.

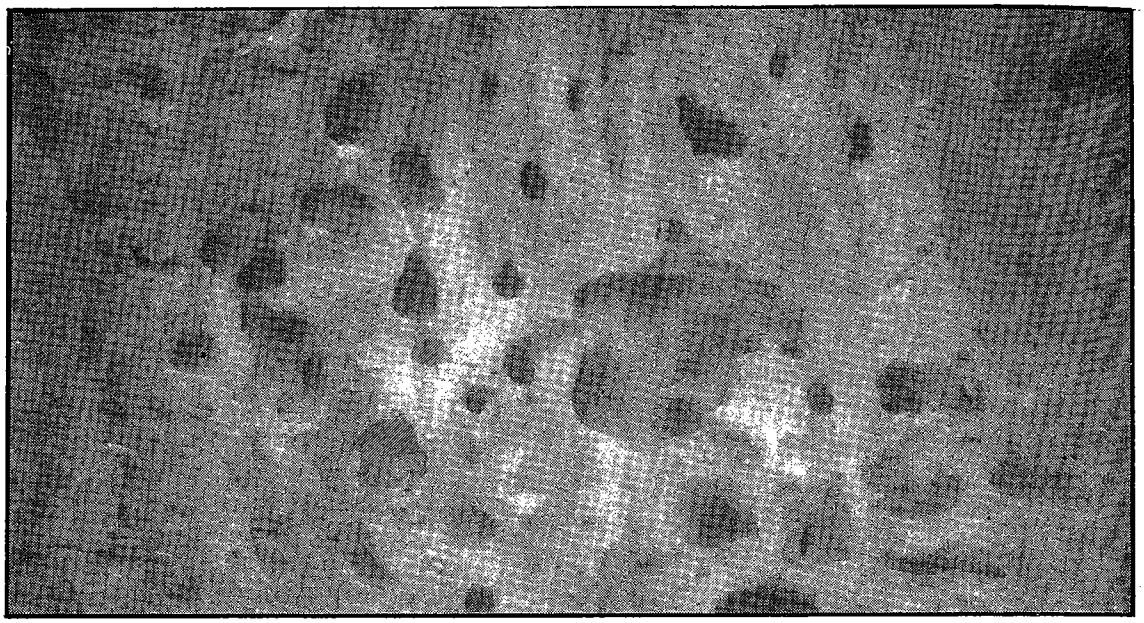
If we remain in an area of the same altitude as Purang but turn to the west for about 300 km into the territory of Nepal, we reach the area of the Kali Gandaki river in the Mustang-district in Nepal. Here in a similar environment we again find huge systems of cave settlements. These settlements were observed and briefly described by G. Tucci and other scholars. The first caves can be found 20 km north of Tukche near Kagbeni on both sides of the Kali Gandaki river. Numerous caves are easily found in the Muktinath valley. A preliminary survey undertaken by Mr. Harka Gurung during his journey to Mustang reveals that these cave



Upper Muktinath - Valley: Cave System C



Upper Muktinath - Valley: Cave System D



Upper Muktinath - Valley: Cave System B

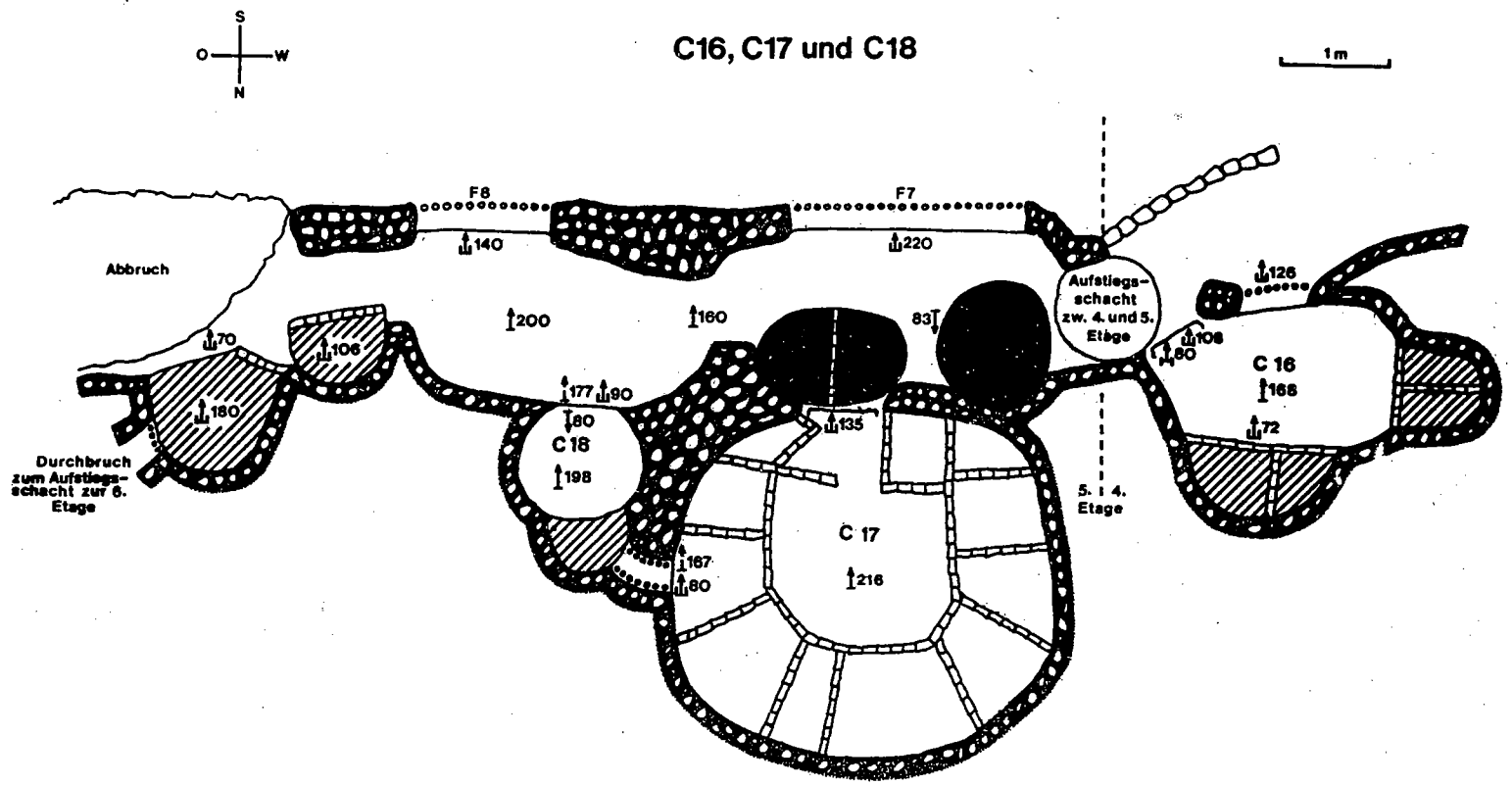
dwellings are found in a great number in the whole area of Mustang up to the Tibetan border.

The caves of the Mustang-district in Nepal are no longer inhabited. The entrances of the caves are mostly inaccessible and can be reached only with special climbing equipment. The population of the surrounding villages does not remember that anybody ever climbed into these caves. Nor can we find any type of folk tales connected to the caves.

The caves of the Muktinath valley can be divided into two major groups: those of the lower valley up to the village Kyingar and those of the upper valley near the villages Kagbeni and Dzong. A preliminary survey of the caves of the upper valley was undertaken by Prof. Dr. D. Schuh in the years 1986 and 1987. It was the aim of this survey to supply some basic knowledge on the caves and to find out, if it was worthwhile, to plan a major archaeological project on these cave settlements.

The exploration work was concentrated on three cave-systems near Dzarkot. The first inspection from the outside revealed, that the caves were marked with many traces of human activities. Some of the entrances to the caves were partially closed by walls. Some of the cave-entrances were connected by small paths, which showed many traces of human constructing activities.

During the exploration it was possible to get access to four cave systems, which were marked as settlements A, B, C and D. It became immediately evident that all caves were by no means natural caves but completely the results of human construction activities. All caves were photographed for the purpose of documentation, measured and drawings of the ground plans were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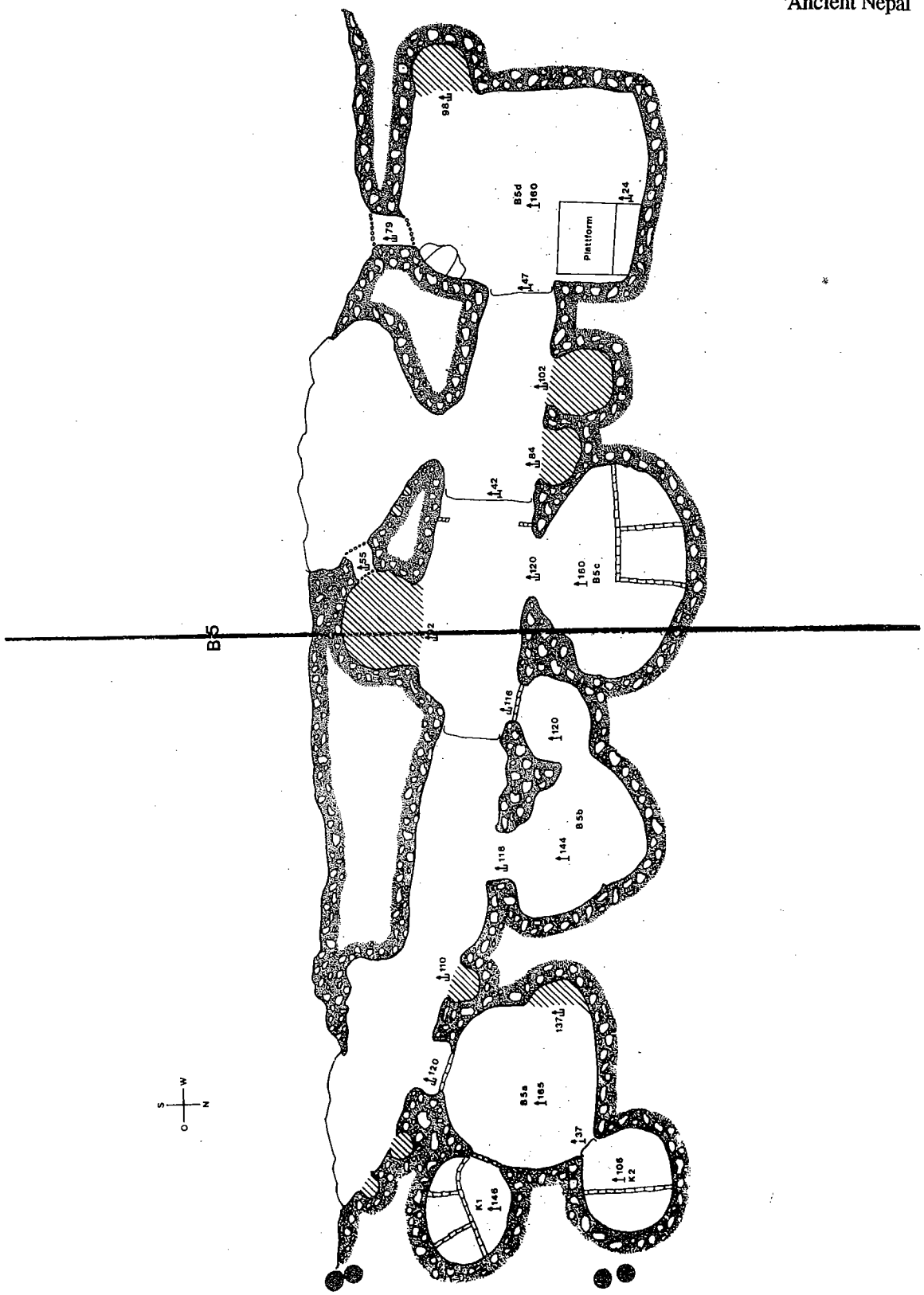
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completed. Additionally, more than 25 samples of organic materials were collected for the purpose of radio carbon dating. A preliminary report of the findings is under preparation and will be published soon.

Here only a short summary of the most important findings can be given.

The cave settlements represented separate entities with similar structure but different size. The biggest settlement was system C, which consisted of more than thirty caves in seven storeys.

The lower storeys were always used for the purpose of dwelling. In settlement C, the storeys 1 - 3 consisted completely of dwelling-caves. The middle storeys were obviously storage caves. In these storeys the caves generally comprised small, walled chambers for the storage of grain. For demonstration we add the ground plans of 4th and the fifth floor of settlement C. The caves C 17 and C 18 show clearly, how these chambers were constructed. Additional storage capacity derived from holes of different size. The uppermost floor always comprised a very small cave which was difficult to enter. Most probably it contained originally the sanctuary of the settlements.

The organic samples from the bricks of the storage-chamber revealed that some of these chambers were constructed between 600 and 100 B.C.. Organic samples taken from a wall-construction between two caves in cave-system D revealed, that this wall may have been constructed about 4000 B.C..

This means that the cave-settlements of the Muktinath-valley may be more than 6000 years old. The caves of the Muktinath-valley are the oldest human settlements found in the whole area of the Himalaya up to now.

3. AIM OF THE RESEARCH PROJECT

The aim of the planned archaeological project is the systematic exploration of the history and culture of the cave-settlements and their original population in the Mustang district. The structure of the caves show clearly that they were constructed and used by men having a highly sophisticated civilisation and culture.

A number of additional important questions should be answered:

1. Are the inhabitants of the caves in the Mustang district the Kiratas from the caves mentioned in a very old Vedic text ?

2. Are there direct connections between the people of the Neolithic tombs near Tukche and the cave-settlements ?

3. Is there any direct connection between the famous ancient Proto-Tibetan West-Himalayan kingdom of Zhanzhung and the cave-settlements ?

4. The political entity of the cave-settlements, known under the designation Se-rib, were destroyed in the 7th century by Tibetan armies. Subsequently, the caves were used for different purposes. What is the history of this later usage ?

4. PARTICIPANTS OF THE PROJECT

The project will be headed by experienced experts on the field concerned, who will bear the ultimate responsibility of the project.

From the Nepalese side:

Experts from:

The Department of Archaeology
Ministry of Education

and

Centre for Nepal and-Asian Studies, Tribhuvan University, Kirtipur.

From the German side:

Prof. Dr. Dieter Schuh,

Seminar for Central-Asian Studies, Bonn University

and

Prof. Dr. Taute,

Institute for Prehistory, Cologne-University.

The actual fieldwork will be done and supervised by two young Nepalese archaeologists and two young German archaeologists. The persons concerned still have to be selected. As far as the young scholars from Nepal are concerned, it is planned to provide an extra training for half a year in archaeological field work in Germany.
In the initial stage, the cooperation of geographers from Nepal will be necessary.
Moreover, it may turn out to be useful to use the help of trained students in the field of archaeology from Nepal and Germany for limited periods.

Last but not least, we propose the formation of an advisory committee for the project. The members of this committee should be appointed at the beginning of the project after consultation of all parties concerned.

5. RESEARCH PLAN

According to our present planning, the project should cover a period of five years. It should be possible to propose an additional extension for a period of five years at a later date.

The actual research work should begin in autumn 1989. While the two Nepalese field researchers should undertake their training in Germany together with their German colleagues, a small team of geographers and photographers from Nepal should travel into Mustang with the aim of a complete cartographic and photographic survey of all existing cave settlements. This survey should supply a preliminary tool for the later choose of excavation sites.

From spring 1990 to autumn 1991 an extensive joint excavation should be undertaken in the lower part of the Muktinath valley. In this excavation all participants should work together. The exact site of the excavation will be fixed by the experts on a later date.

From 1992 to 1993, the Nepalese group of archaeologists should undertake a separate excavation-project in the northern part of the Mustang district, which is a restricted area and not accessible for their German colleagues. During this time the German participants should concentrate on excavations in the area of Tukche.

Due to practical considerations and climatic restrictions the actual field work should be limited to a period of five months every year.

6. FINANCIAL AND OTHER OBLIGATIONS

Whereas it is expected that all Nepalese colleagues and participants, who are working already in Nepalese institutions, should retain their salaries from His Majesty's Government as before, all other financial obligations will be totally covered by the German side.

We hereby explicitly declare that no additional financial obligations will be required from His Majesty's Government.

The excavation-project will require the import of necessary scientific equipments from Germany. Therefore, we request His Majesty's Government to grant import-tax exemption for the import of all scientific equipments needed by the project.

In addition to this, we request His Majesty's Government for the permission to open an office of the "Nepal-German Archaeological Project" for the period of five years in Kathmandu. This office will have the purpose to coordinate the research-work of the scientists who participate in the project.

It goes without saying, that all archaeological findings will be deposited ultimately in Nepal according to the decisions taken by His Majesty's Government. Nevertheless, it will be scientifically necessary to examine a certain number of findings in the prehistoric laboratories in Cologne-University for a limited period of time. For this purpose special permits of His Majesty's Government should be granted.

7. FINAL REMARKS

The aim of the submitted research plan is the archaeological exploration of human caves-settlements of enormous size inhabited in prehistoric times by a population with a highly sophisticated civilisation. The exploration of this civilisation, which may be more than 6.000 years old, will greatly enhance the prestige of Nepal as a cultural nation, which created one of the oldest highly developed civilisations in the world.

Trial Excavation of a Cave System in Muktinath Valley

Preliminary studies in the settlement archaeology of the high mountain region of Mustang District (West Nepal)

-Angela Simons

In July 1990 the author was able to carry out three weeks of archaeological work in a cave system in Muktinath Valley.[1] In prehistoric times numerous such cave systems were dug into the faces of the rock massifs exposed to the sun situated alongside the riverbeds in the whole region between South Mustang (north of Jomsom) and the Tibetan border (Fig. 1).[2] The cave rooms are arranged in several levels; some of the cave systems contain more than seven floors.

The cave systems in the Mustang District were first mentioned by G. Tucci (1953, 55)[3] in his report on his journey to Mustang. In 1986 and the following years, the tibetologist D. Schuh and some colleagues managed to climb into and survey some of the cave systems in Muktinath Valley and thus collect the first samples for radio-carbon dating. The first data suggested that the origins of the cave systems go back far into prehistoric times.

The aim of the 1990 research programme was mainly to gather sound data in order to plan the proposed archaeological work in the high mountain region of Nepal. Therefore, we wanted to collect well documented samples in a cave system and thus get an idea of the chronology and the former usage of these archaeological monuments.

The "F-System"

In the upper Muktinath Valley a large rock massif is situated on the northern bank of the river Dzong opposite the village sites of Dzar (Jharkot) and Khyinga. At its easternmost corner lie the castle and the village of Dzong (Jhong). The

south and west facing parts of this rock massif contain several multi-storey cave systems, some of which had already been explored by the group of D. Schuh from 1986 to 1988.

The cave system, which is located at the western edge of the rock massif near the small tributary valley forming its border, has been called F-System (Fig. 2). The cave rooms were dug into the steep rock face directly above the river Dzong; the river terrace, which is preserved below the eastern cave systems (A to E), is missing at this site. The cave system is made up of two formerly connected parts which are now separated by a deep gully, the south-eastern F-System (Activity 90.2) and the north-western F-System (Activity 90.14). The remains of a gallery connecting both parts show that they belonged to each other during at least one phase of the occupation. The traces of the stone wall which was supported by wooden beams are recognizable.

The 1990 archaeological work concentrated mainly on the south-eastern part of the F-System. There the cave rooms are arranged in six floors but the caves of the four lower levels have been filled up with debris, leaving only small openings. The erosion of the soft conglomerate rock-material has also destroyed portions of the former cave rooms; the entrances of many caves are broken out irregularly and some cave rooms are preserved only as small niches in the rock face. The caves of the two upper floors were preserved best and thus investigated first. The entrances of the caves of the Lower Main Floor were located about 27 m above the river bed, those of the Upper Main Floor around 30 m. Therefore, prior to the archaeological work the spelaeologist D. Gebauer had to prepare access to the caves; he also connected the rooms of the two main floors by installing mountaineering ropes.

In the north-western part of the cave system only one small cave room could be examined thoroughly. The access to it was rather difficult as its entrance height above the river was 52 m. H.D. Gebauer and D. Schuh also managed to climb into some other cave rooms, thus discovering a large cave more than 10 m long, the entrances of which were nearly totally buried under debris.

Archaeological Features of the F-System

Cave rooms of the Upper Main Floor in the south-eastern part of the F-System (Activity 90.2) Fig.3 above

Locations 9-13
The entrance of the westernmost cave of the Upper Main Floor lies 29.90 m above the river Dzong. Remains of brickwork and plaster are preserved at the door opening to the south and at the small window above a big boulder facing south-west. The usable area of the interior is about 12 m^2, the width measuring 2 m at the door and widening to about 4 m at the rear wall. The maximum height of the cave is 1.20 m.

Along the walls the former inhabitants had erected mudbrick structures, utilising the niches and boulders left after digging the cave room. These box-shaped structures, which take up nearly half of the usable area, were built of 5 to 7 layers of mudbricks, subsequently plastered carefully. Remains of cereal plants, stalks and ears, cover the floor of the cave. Because of the large amount of crop remains, mainly barley, it seems plausible that the mudbrick structures were used to store the crop; the recent storing boxes in

the region are of about the same form and dimension.

A trial trench in front of the structures against the west wall showed that only a thin layer of sediment some 20 cm thick had accumulated upon the rock floor. The whole sediment contained a great deal of cereal debris, stalks and ears, which suggests long use as a grain-store.

Three ^{14}C-dates were obtained from this room. The plant temper of a mud-brick from the destroyed feature east of the entrance gave a calibrated date of A.D. 557 ±20 (KN-4358 = Nepal 1990/8),[4] whereas a smaller brick from the semi-circular feature in the north-west corner realised a calibrated date of A.D. 1297 ±87. Finally, the grain stalks from the floor-surface in front of the western structures produced a calibrated date of A.D. 1363 ±41 (KN-4354 = Nepal 1990/4). Thus, we already have useful dates for the chronology of the cave-system's utilisation: the construction of the mud-brick structures for grain-storage seems to fall at the beginning of its use, perhaps directly following the establishment of the rooms. The different sizes of bricks bear witness to the renewal and addition of features during the occupation. The room was finally in use during the Tibetan medieval period.

Locations 14 and 15

The cave-room attached to the east in the upper main floor of the F-System comprises a much smaller ground-surface of about 4.5m^2. The conspicuous black layer of soot and tar firmly adhering to the cave's ceiling could only have developed over a long period by cooking over an open hearth. Against the south-eastern wall there survives a U-shaped hearth built of mud-bricks set upright, which on the inner surface have been burnt irregularly owing to the fire Two thin slates set in a clay mixture served as a cooking surface. Between the sides of the hearth's superstructure lies a slate with a depression for the fuel. According to the finds and specimens taken, wood, which was found with traces of cuts and burning, and dried cattle-dung acted as fuel. Plant remains (examined by Dr.K.-H.Knörzer) and the many animal bones, especially the fleshy bones of sheep/goat and yak (examined by Prof. Dr. A. van den Driesch) proffer evidence of the meals taken.

The ^{14}C-analyses of the area around the hearth have produced widely varying dates. The much older date obtained from the temper of one mud-brick displays a large range of error, i.e. ±300 years, owing to the small amount of the probe; the plant remains of the brick date to 147 ±302 B.C. (KN4355 = Nepal 1990/5). On the other hand, the final use of the hearth can be placed in the medieval period from the charcoal found in the depression, i.e. A.D. 1383 ±82 (KN-4359 = Nepal 1990/9). Remains of grain discovered in front of the hearth prove usage some 500 years previously, i.e. A.D. 812 ±112 (KN-4396 = Nepal 1990/11). Apart from a long period of usage, a possible explanation for the varying dates within one feature could be a secondary use of mud-bricks from storage structures for the hearth, or even the reuse of old humus in the mud mixture falsifying the date.

Location 19

Parts of a gallery once connecting the rooms survive on the rock-face in front of the afore-mentioned cave-chamber and the annex to the east. They consist of the remains of a dry-walling out of rock-debris in which wooden beams had been inserted, probably for a porch. Radio-carbon analysis helped to date the remains of one of the beams: A.D. 1242 ±46 (KN-4356 = Nepal 1990/6). The gallery, therefore, dates to the phase of occupation in the Tibetan medieval period,

which was also verified by the dates of the two rooms described previously. According to the features, the surviving projecting walls cannot have been built during the construction of the cave-system, as they obviously connected previously eroded cave-chambers, parts of which had collapsed (viz. locations 23 and 24 on the lower main floor). Nothing survives of the original porch which must have once existed and which dated to the beginning of the period of use.

Locations 17 and 18
The next chamber to the east contains well-preserved mud-brick structures. In part they survive to their original height of seven courses of brick. A single box-structure with a ground-surface of 50 x 60 cm and a depth of about 60 cm had a volume of some 180 litres.

In this room there are found further typical features constantly recurring in the chambers of the cave-systems. Approximately 20-40 cm above floor-level semi-circular niches have been worked to a depth of some 40 cm into the walls. They may have served for the setting-up of cult objects and belong to the final stage of usage, when the caves were used as living- and cult-quarters of lamas. The function as cult-niches is clearly demonstrated in other cave-systems, where the niches are correspondingly coated with mud-plaster and are painted.[5]
Besides these, an almost circular pit some 40 cm in depth and some 50 cm in diameter was present. It was filled with loose sediment and collapsed debris. Grain remains were found in the fill, probably as a result of secondary filling with material from the floor-surface.

Location 16
The neighbouring small room, which can be entered through a narrow breach, was completely filled with mud-brick structures. The south-western part of the room with its entrance from the rock-face has been eroded away.

Locations 3 and 4
There follows a further larger chamber with brick fittings along the north-west wall. During the first investigation by members of D.Schuh's team in 1987 an opening was made in the wall to the south-easternmost room of this storey, as it is difficult to enter the neighbouring chamber from the outside.

Locations 5 and 6
The easternmost room of the upper main floor has a area of only 2 m. The original, single entrance comprised a small, south-facing window of some 40 x 50cm. A small, double-chambered mud-brick structure had been built against the south-eastern wall.

Cave-rooms of the lower main floor of the south-eastern part of the F-System (Activity 90.2) Fig. 3 below

The major characteristic of the rooms on the lower main floor is that they are in the majority partly covered with rock debris from the storey above. Having collected against the remaining sections of the gallery surviving in front of the caves, the debris then seeped into the rooms. The interior features are usually badly preserved, i.e. they have either crumbled away, apart from the lowest course of mud-bricks, or perhaps have been destroyed on purpose by visitors. The gallery as well as the filled-in area can be seen on the ground-plan (Fig. 3 below). The lower main floor is situated some 27 m above the river.

Location 22
The westernmost room of the lower main floor is

only accessible by means of a small opening behind a ruined wall. It is, however, surprisingly large, with a row of collapsed mud-brick structures and a pit filled with debris consisting solely of grain remains and charcoal. Following the removal of the debris, the ground-plan is clearly discernible.

Location 2
In the adjacent small room only traces of the former structures remain. In the debris, however, the end of a bamboo arrow-shaft (Fig. 4,4) was found.

Locations 20, 21 and 23, 24
The two chambers following to the east have almost completely collapsed.

The next two caves survive rudimentarily, whereas a large part has broken away as a result of erosion and earthquakes. The black, soot-covered ceiling in the remains of cave 23 testifies to its earlier, long occupation. This, however, cannot belong to the final period of the cave-system, as the above-mentioned supporting wall of the gallery, which connected the chambers with one another, still survives on the rock-face. According to the preliminary investigations, the period of occupation of the cave-systems stretches over several centuries, whereas the gallery, as already noted and confirmed by a ^{14}C-date, belongs to one of the latest phases of use, as the original cave-chambers had been drastically altered by natural factors.

Locations 7 and 8
In the last of the rooms of the lower main floor examined a corner of the eastern wall had been filled in by a hard clay layer. The dried cracks indicated what a section through the extremely hard surface of the layer confirmed; it was a natural feature. At this deepest part of the room water had gathered in the niche after the abandonment of the caves. Very fine particles had washed out of the mud-plaster, which had crumbled from the walls, and, after the puddle had dried out, the clayey layer had developed in several lenses. As a consequence of this, the floor had been sealed. Plant remains and finds proved this to consist of two surfaces divided by a make-up of rubbish some 20 cm thick. Here, too, the sediment layer upon the rock-surface was only some 30 cm thick. As well as floral remains, animal bones and the remains of firewood, leather and an iron arrow-head (Fig. 4,2) were recovered.

The ceiling of this room is also black with soot from the burning hearth. The usage as kitchen, however, certainly does not date to the final period of use, because mud-plaster had been applied afterwards to the sooted walls, which has since fallen away from the lower section of the walls. Unexplainable at present are irregular holes in the mud-plaster produced by four-sided wooden pegs, some of which are still in situ. Perhaps they served to fasten wall-hangings or similar on the cave walls.

Cave-rooms of the north-western part of the F-System (Activity 90.14)

Since the upper rooms of the north-western F-System are situated much higher, so that they were much more inaccessible than the south-eastern system, it was hoped that they had suffered less subsequent disturbance. As a result D. Gebauer undertook an additional examination and a partial survey of this part of the F-System. An archaeological investigation took place in only one room of the system, i.e. the small room with the second highest entrance of the whole F-

System (approx. 52 m above the river). Gebauer also managed to take specimens from the highest chamber.

Location 2: the room with the pottery deposit (Fig. 5)

This is a small, oval chamber some 4 m^2 large with mud-brick structures along the walls. One of these against the north wall still bears a flat slate lid. Further such slates lie in and around the structures. The varying dimensions of the mud-bricks testify to several phases of construction and reconstruction within the structures; behind them the rock-face is plastered with mud. The room's walls and ceiling in the south still display traces of the hollowing out with a slightly curved instrument with an adze-like cutting edge some 14 cm wide. The roughly rectangular access to the south-west also bears traces of a chisel-like tool with a cutting-edge about 1 cm wide, as well as the remains of mud-plaster.

Three complete vessels lay by the entrance to the chamber: a flask, which once had a spout, and two flat-bottomed pots, one of which had been repaired (Fig. 6). Besides these, two large pieces of a fourth, complete vessel, a large one with a narrow mouth, were found lying in a brick feature on the north wall. On cleaning off the entrance area, a pottery bung belonging to the vessel in the neighbouring feature was found in front of the first mud-brick structure, of which only two courses still survived.

Two mud-brick structures against the north-west wall survive intact; they comprise seven courses of mud-bricks in addition to the lid. To the east lies a 60 cm wide feature delimited on the south only by a single course of mud-brick; in it lay the large vessel with a mend on the shoulder (Fig. 7). The cracks in the vessel had been carefully held together with string by boring into the sherds, threading a woollen string through the holes and smearing the crack with resin. The bung-hole in the wall directly above the base proved the vessel to be a chang-vessel, i.e. a vessel for brewing barley beer still in everyday use today. Owing to the repair, however, it was used secondarily as a storage vessel. In falling it had broken beneath the mend; as mentioned above, two sherds lay in the porch alongside the three small vessels, whereas the bung also lay in the porch, but directly against the neighbouring wall.

After recovering the three small vessels from the entrance, remains of a hearth appeared in the plan beneath the pottery deposit. In the sediment were found the remains of plants and utensils. Beneath it lay the natural rock.

The charcoal from the hearth provided a calibrated ^{14}C-date of A.D. 1443 ±62 (KN-4351 = Nepal 1990/1), which certainly dates the final use of the room and the depositing of the vessels. The trodden surface of straw beneath a slate in the demolished structure next to the chang-vessel, however, produced a much older date, which pushes back the beginning of occupation and, therefore, the construction of the chamber way into the prehistoric period: 289 ±68 B.C. (KN-4360 = Nepal 1990/10).

Location 3

The small overlying chamber, which nowadays serves as an eyrie for nesting vultures, was only visited by D. Gebauer and D. Schuh. The ^{14}C-specimens from the hearth in the lowest occupation level revealed a calibrated date of A.D. 811 ±72 (KN-4352 = Nepal 1990/2). The possibly plausible hypothesis that the least accessible chambers could reveal the earliest traces of

settlement was not confirmed by this dating.

The Finds[6]

Pottery

The major proportion of finds consists of broken settlement pottery, sherds of cooking pots and storing vessels. Only the small room in the north-western F-System (90/14, location 2) furnished a pottery deposit of four complete vessels. The large vessel with a bung measures more than 60 cm in height (Fig. 7). It is hand-made. It was repaired at the shoulder/body by boring the large sherds and threading with a rough string of goat's-hair, after which the crack was smeared on the interior with resin.[7] One of the three small vessels also has a repair (Fig 6,3). There are two very similar pots which have an incised decoration, one with a semi-circle (Fig. 6,2), the other with a triangle on the shoulder (Fig 6,3).[8] The flask with the broken spout has a base with a stand (Fig. 6,1); it resembles a bumpa.[9]

Among the other pottery, including the surface finds, a considerable variety of rim-shapes is easily discernible. Many vessels are articulated; they are mostly cooking vessels (Fig. 8; 9,3).

Upto now there has been no pottery chronology for the region; the relative chronology of the material is unknown. In creating a chronology ^{14}C-dates and stratigraphy will form the fixed points. It is certain, however, that all our pottery finds are older than the pottery which has been kept and which was produced upto 50 years ago.

Metal finds

Metal artefacts are found more seldom. Worth mentioning is a simple, barbed iron arrow-head with a tang (Fig. 4,2).[10]
Besides this, there were found a strip of bronze, probably used as a fitting (Fig. 9,1), and a fragment of an iron knife-blade (Fig. 4,1).

Finds of organic material

Animal bones[11]

Because of the semi-arid climate, not only durable artefacts such as pottery survive, but also objects of organic material such as bone, leather, textiles, wood and plants. The room with the vessel deposit (90.14, location 2) produced a spinning-whorl of deer antler (Fig. 10,2)), unspun animal hair and spun thread. A small bag made of animal hide was found in the same context (Fig. 10,1).

All archaeological contexts contain fragments of animal bones, mostly typical food remains from the fleshy bones of sheep/goat (e.g. ribs), sometimes with traces of cutting, as well as remains of cattle, yak and horse or mule.

Wood and botanical remains[12]

In all rooms examined there were found wood chippings and larger pieces of wood, partly with traces of cutting and/or of heat, which suggests the remains of fire-wood. Several types of coniferous and deciduous woods were identified. That cattle-dung was also used for fuel is proved by dried packs that were found in some rooms.

Notable objects of wood are the fragment of a

bamboo arrow-shaft and the wooden handle of a tool (Fig. 9,2).
Only the last 25 cm of the arrow-shaft survive (Fig. 4,4). Fine, longitudinal incisions were for the fixing of the feathers. Only one carved cam-barb survives, the other has broken away. The shaft had been cut off intentionally, as the cuts at the upper end of the fragment show. Bamboo does not grow in the Muktinath Valley and had to be brought from some 1,000 m lower down.[13]
The wooden handle (Fig. 9,2) is made of a soft wood and displays the negative shape of a four-sided tang narrowing downwards; it belongs to a tool.

The large amounts of plant remains, particularly from grain and from threshing, imply a use of the mud-brick structures as grain-stores. By the botanical examination the seeds and remains of 61 domesticated and wild species could be identified, e.g. three different sorts of barley, a type of wheat and two of buckwheat. In the case of the buckwheat, which may have been domesticated on the periphery of the Himalayas, this is an early piece of archaeological evidence for it. The domesticated plants were associated with the same wild plants as in central Europe.
According to the first examination, the state of the pollen is good and portends well for additional results.

Preliminary results

In order to disentangle the chronology of the cave system, it is first necessary to establish a framework of ^{14}C-dates in which the features and artefacts can be ordered. There are already several groups of dates:

From the Tibetan prehistoric period upto about A.D. 800 from the mud-brick structures and grain remains:
1. - several dates B.C., the earliest from the 3rd century B.C.
2. - several dates between A.D. 550 and 820.

From the Tibetan medieval period:
3. - dates from the cave sediment, floors, charcoal, wood from the entrances: between A.D. 1200 and 1500.

A preliminary result of this first archaeological investigation is that the multi-storey cave-systems represent the remains of settlements inhabited or used in prehistoric and medieval times by an agricultural population. According to the ^{14}C-analyses, the periods of use go back more than 2,000 years. The storage bins of air-dried mud-bricks were built during the earliest phase of use. The final settlement layers that have not been removed date to between A.D. 1200 and 1500. Afterwards, the cave-systems were partly occupied by Buddhist hermits, as revealed by the painting and inscriptions in certain rooms. Thus, the first basis for the occupation chronology of the partially monumental constructions has been won.

The work in July 1990, however, represented only a preliminary archaeological investigation in a single cave-system, in order to gain an impression of the possibilities and problems in examining the cave-systems in Mustang. The systematic archaeological work within the framework of the Nepal-German-Project on High Mountain Archaeology begun in Spring 1992 will expand the data-base, not only in number, but also in the methods employed by incorporating different cave-systems and their environs into the investigation. By gathering together the results of the other scientists involved on the project, one can gain an insight into the prehistoric settlement in the high mountain region of Mustang, in an

area on the very edge of the human oecumene.

Notes:

1. The work was initiated by Prof. Dr. D. Schuh and financed by the German Research Council.
   HMG Department of Archaeology and especially then General Director ai Dr. S. Amatya gave their support, for which we would like to extend our sincerest thanks.

2. The plans were drawn by D. Gebauer and T. Ruppel, the finds by S. Laub, A. Smadi and S. Hase, whom I would warmly like to thank. For the translation of the German text into English I owe thanks to C. Bridger.

3. G. Tucci, Journey to Mustang 1952. Kathmandu 1953/1977 (reprint).

4. The ^{14}C-specimens were measured by Dr. J. Freundlich and calibrated using the programme CabibETH, Vers.1.5b, Zürich 1991.

5. For instance, both cave-systems investigated in the spring of 1992 in the upper (Activity 92.5) and lower Muktinath Valley (Activity 92.17) included chambers with similarly plastered and painted niches.

6. The finds can only be described here but not analysed.

7. An analysis of the resin is still wanting. The string remains were analysed by Prof. Dr. A. van den Driesch.

8. Dr. C. Ramble pointed out to me that the incisions could have a religious impact. There are four types of actions which are symbolized by geometric figures:
   circle = zhi - peaceful
   semicircle = rgyas - expansive, spreading
   square = dbang - powerful
   triangle = drag - fierce, destructive.

9. This information I owe to Dr. V. Ronge, who also told me that the general appearance of the recovered vessels and their decoration is different from the pottery which is in use in Tibet nowadays.

10. Dr. C. Ramble saw a similar arrow-head, which is quite different from those in use nowadays, in the Thakali village of Syang south of Jomsom.

11. The examination of the animal bones was carried out by Prof. Dr. A. van den Driesch.

12. The palaeoethnobotanical examination of the macro remains was carried out by Dr. K.-H. Knörzer, the pol'en analysis by Dr. J. Meurers-Balke with assistance from I. Cloß. U. Tegtmeier M.A. examined some specimens of wood.

13. Even modern-day arrow-shafts for archery competetion are mostly made from bamboo, which is now all brought from Ghasa.

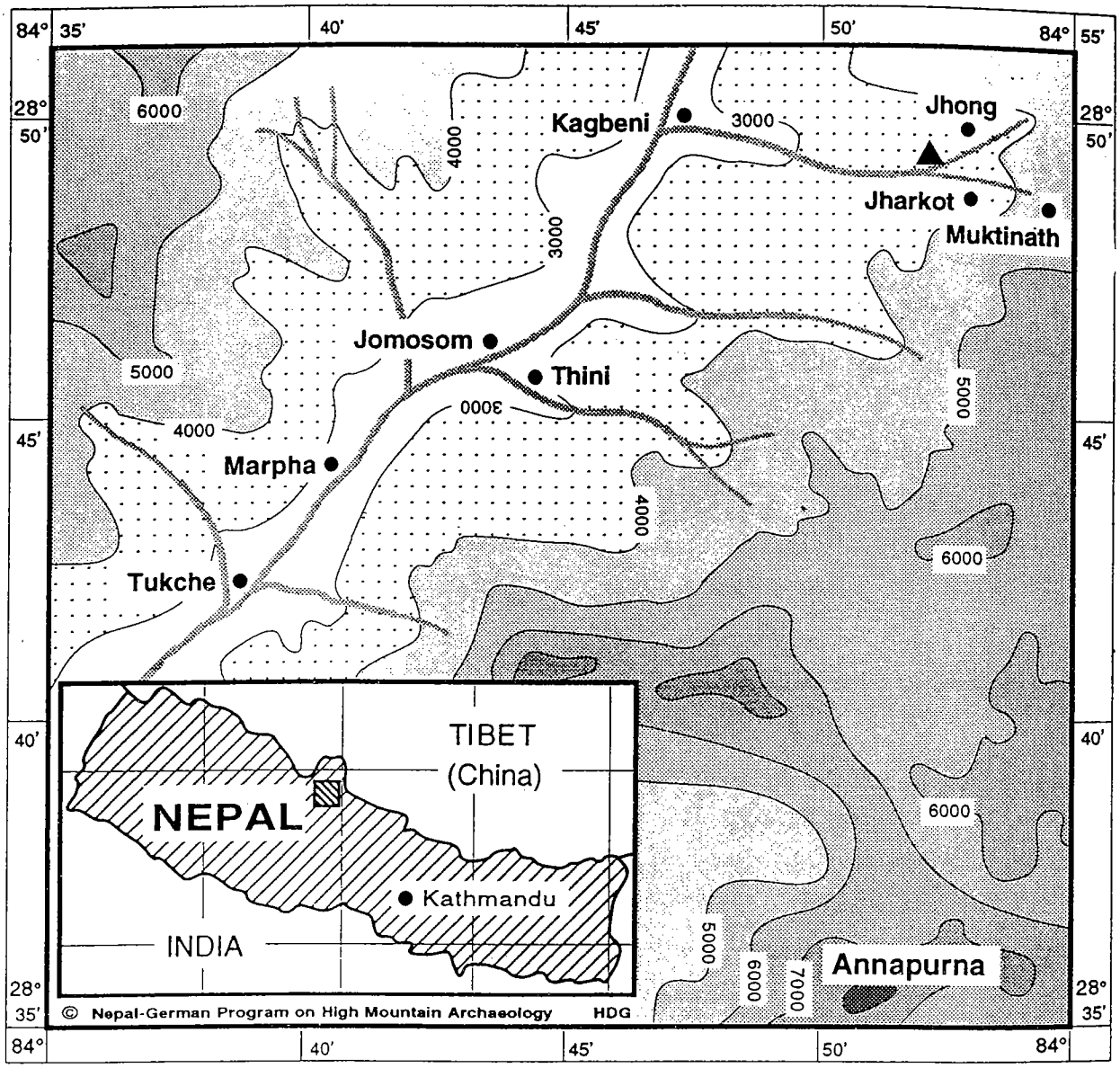


Fig. 1 Map of the southern part of Mustang District with the Muktinath Valley. The triangle marks the site.

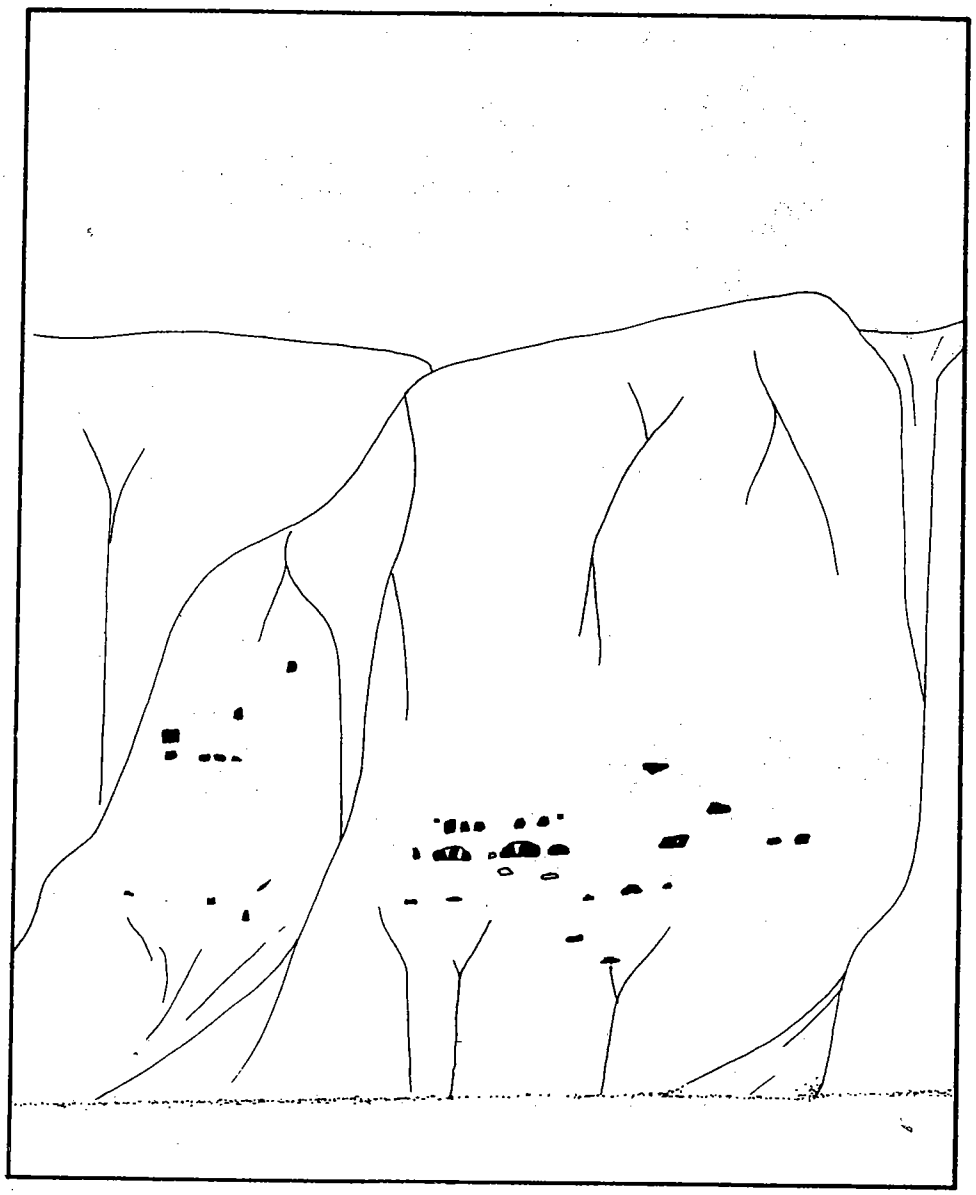


Fig. 2 View of the rock-face from the south with the examined cave system (F-System). Redrawn from a slide.

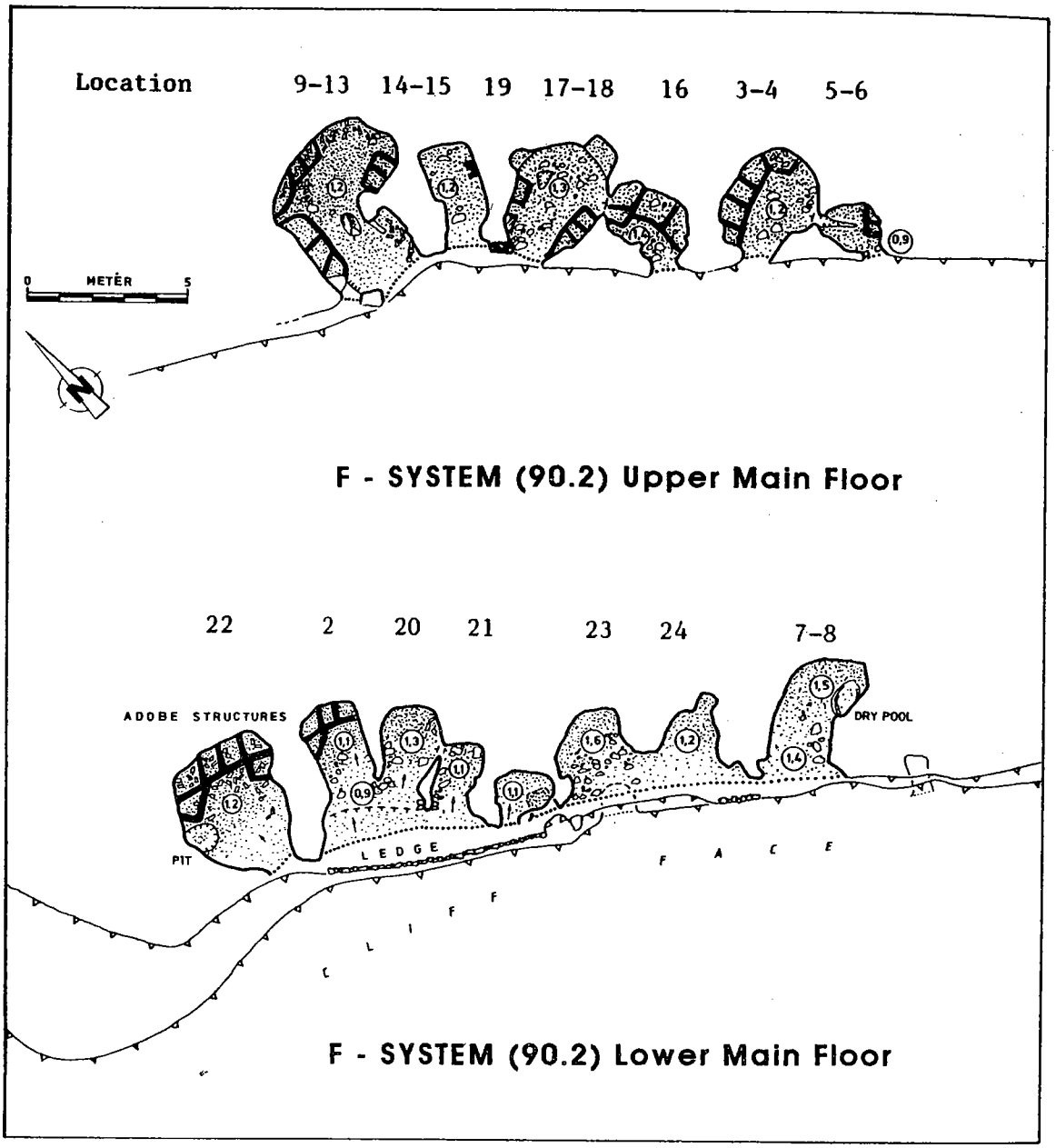


Fig. 3 Above: Plan of the upper main floor of the south-eastern F-System. Below: Plan of the lower main floor of the south-eastern F-System. Survey and drawing by D.Gebauer.

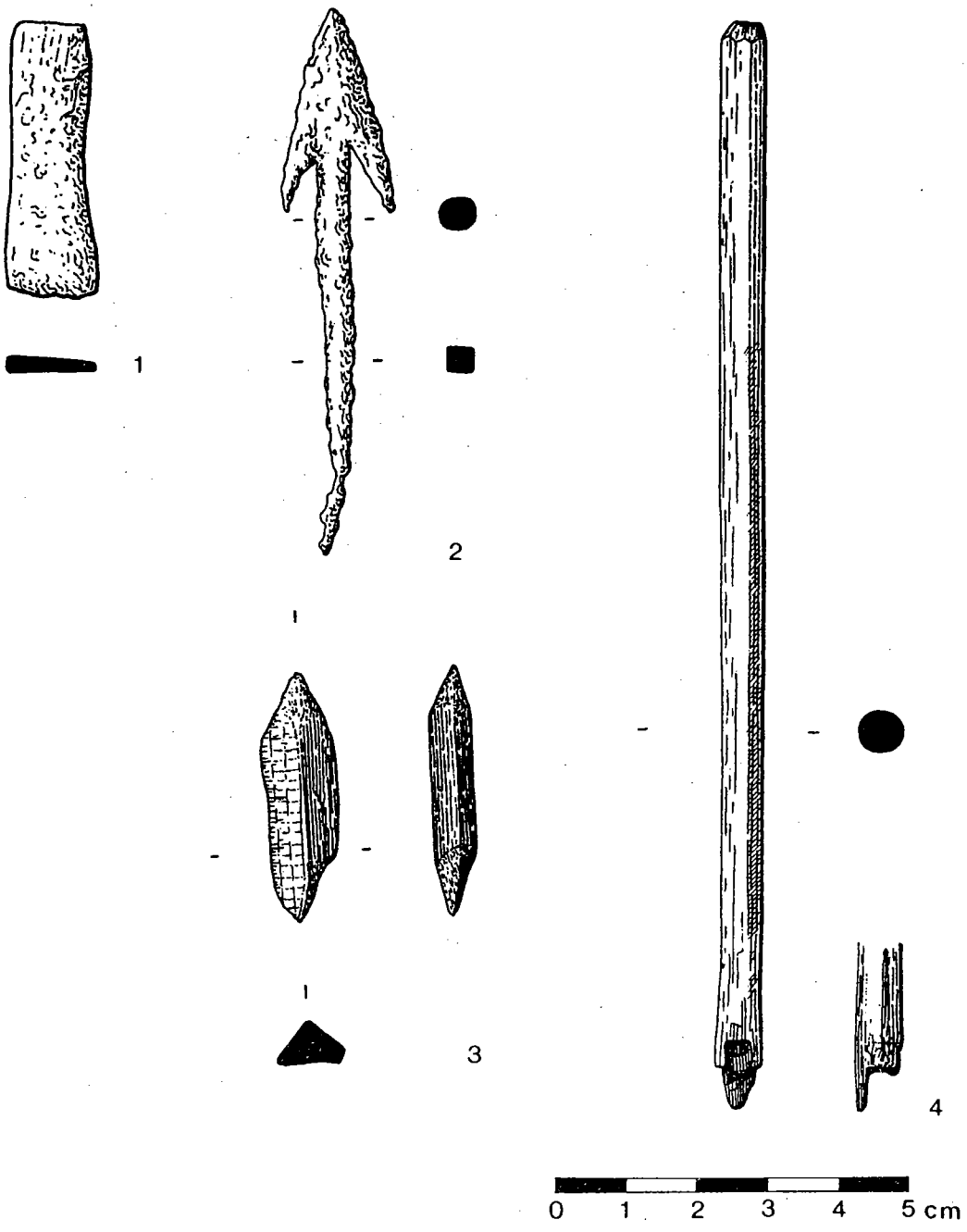


Fig. 4 Finds from the south-eastern F-System (90.2). 1-2 Location 8 (iron); 3: Location 4 (wood); 4 Location 2 (wood). Scale 1:1.

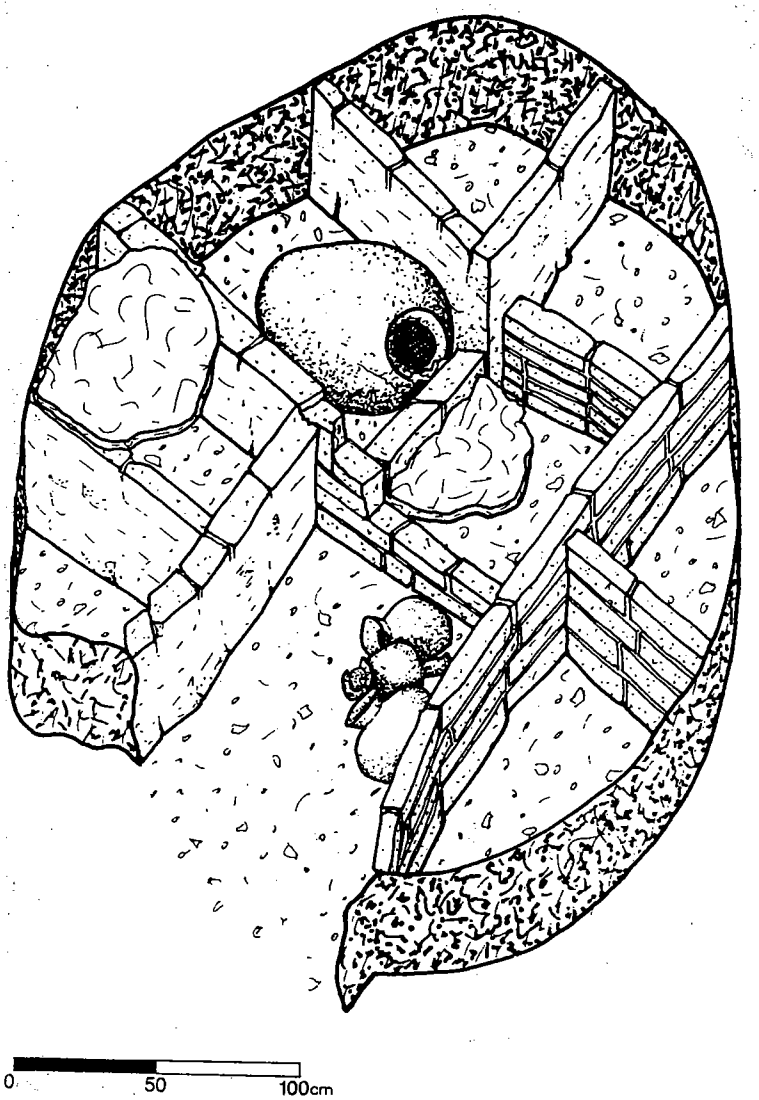


Fig. 5 Isometric view of room with pottery deposit in the north-west section of the F-System (90.14, Location 2). Scale 1:40.

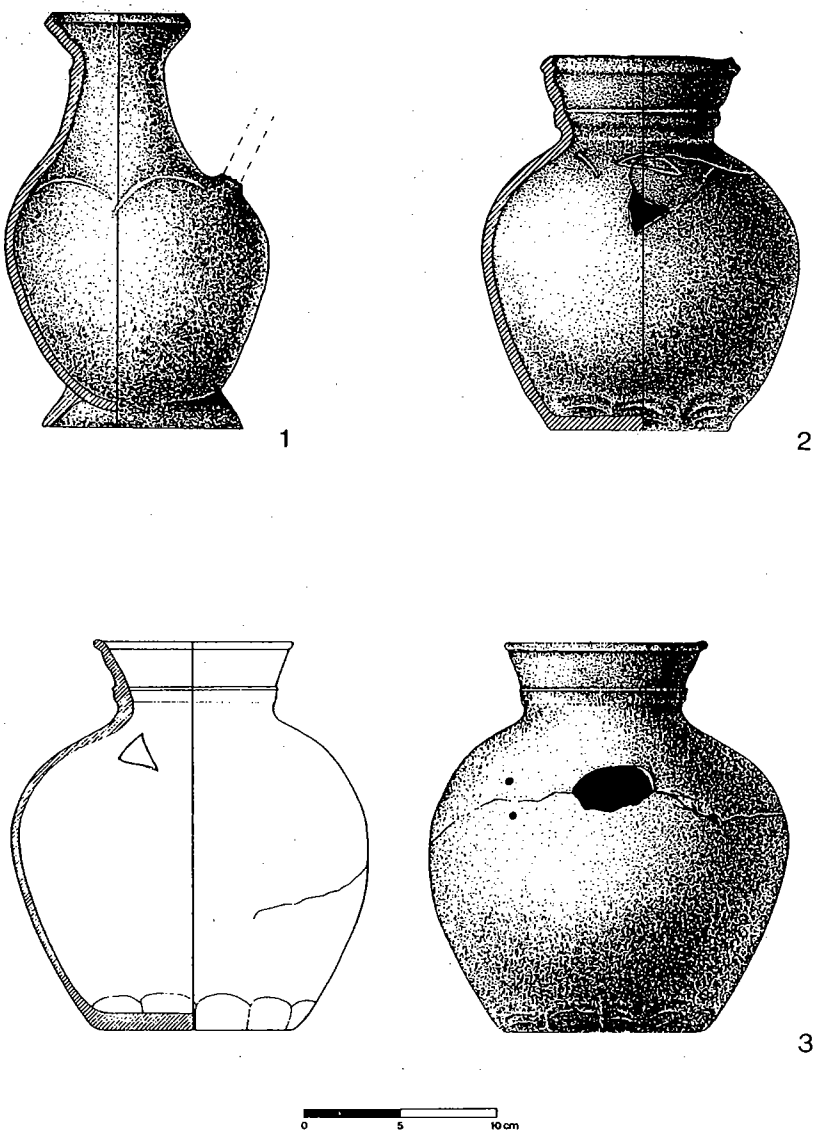


Fig. 6 The three smaller vessels from 90.14 Location 2. Scale 1:4.

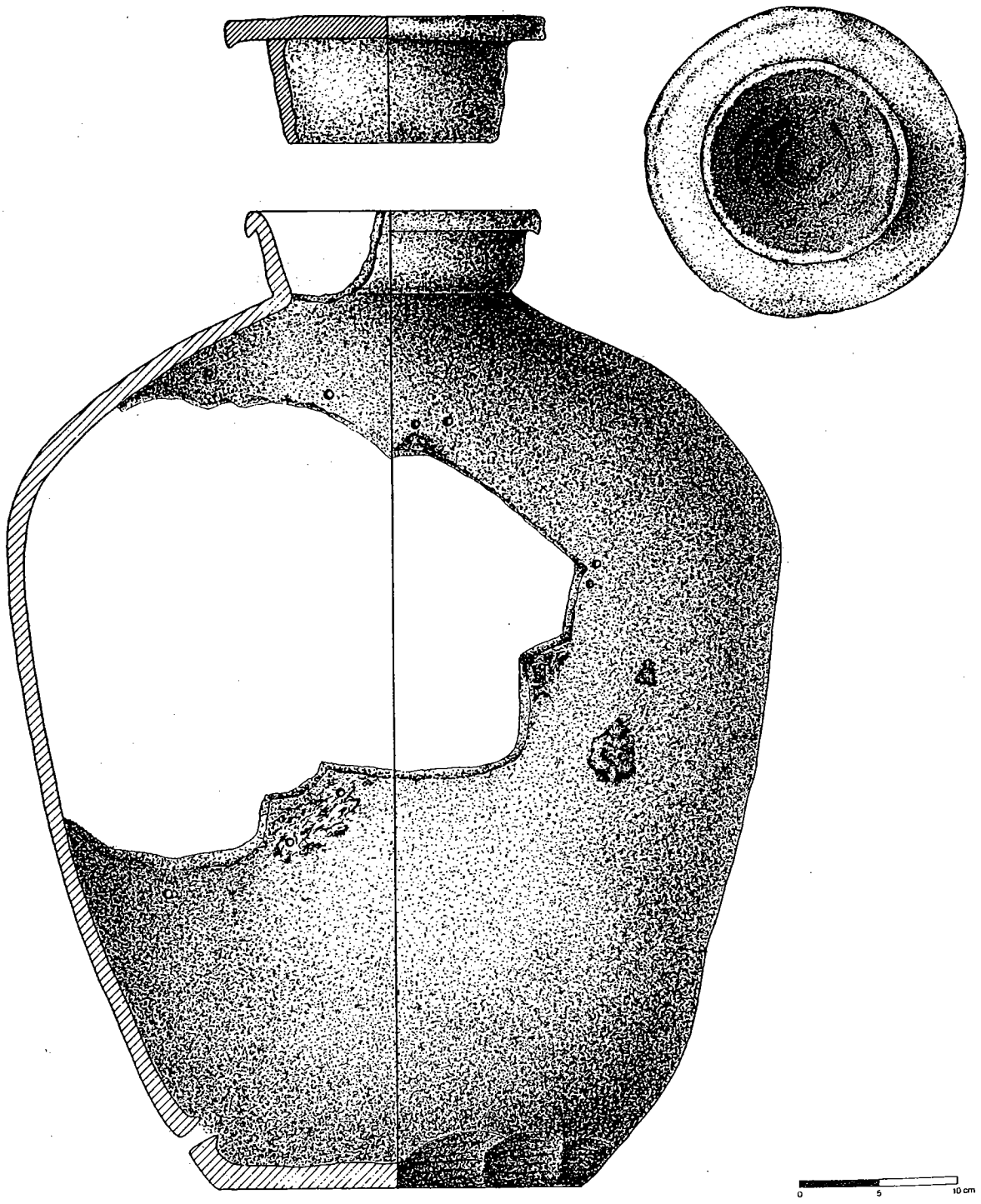
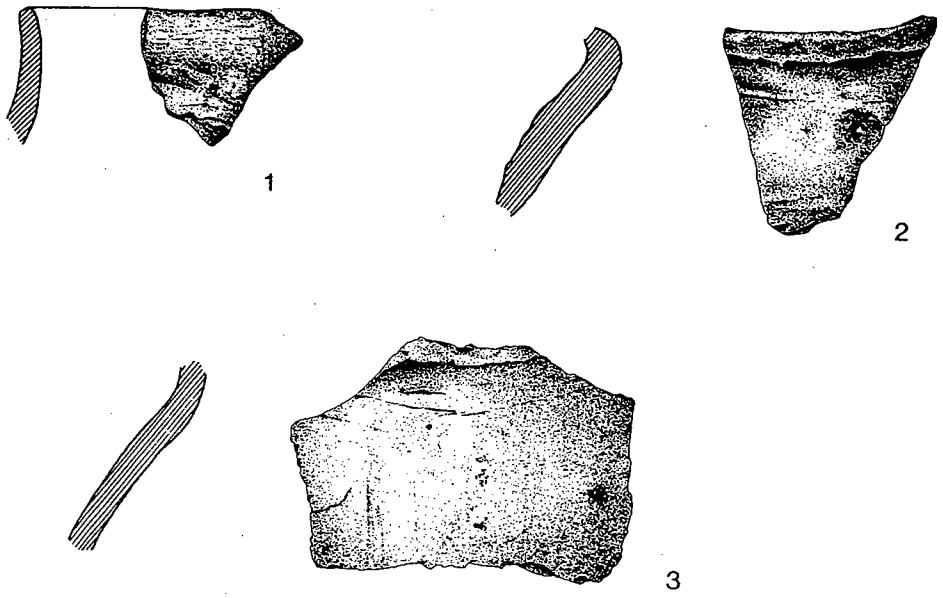


Fig. 7 The chang-vessel with bung from 90.14, Location 2. Scale 1:4.



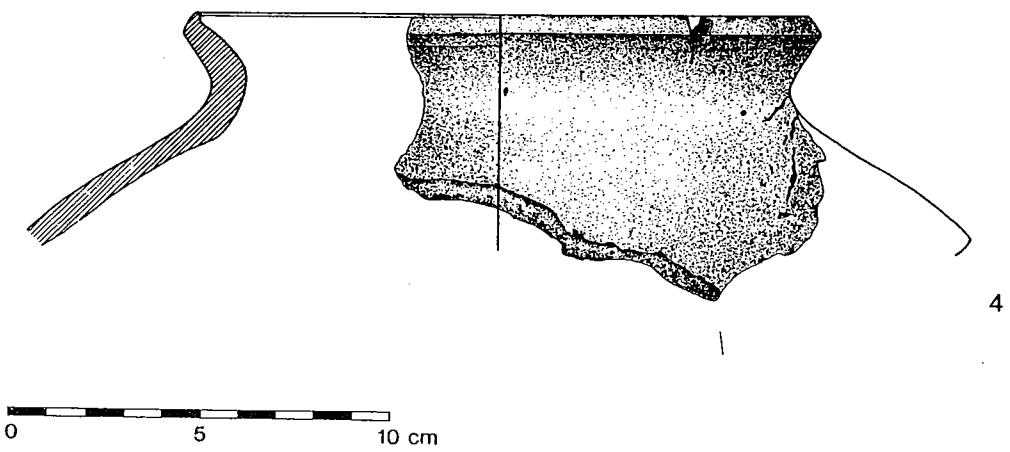


Fig. 8 Potsherds fom different locations: 1 90/2, Location 3; 2 Location 11; 3 Location 12; 4 90/14, Location 2. Scale 1:2.

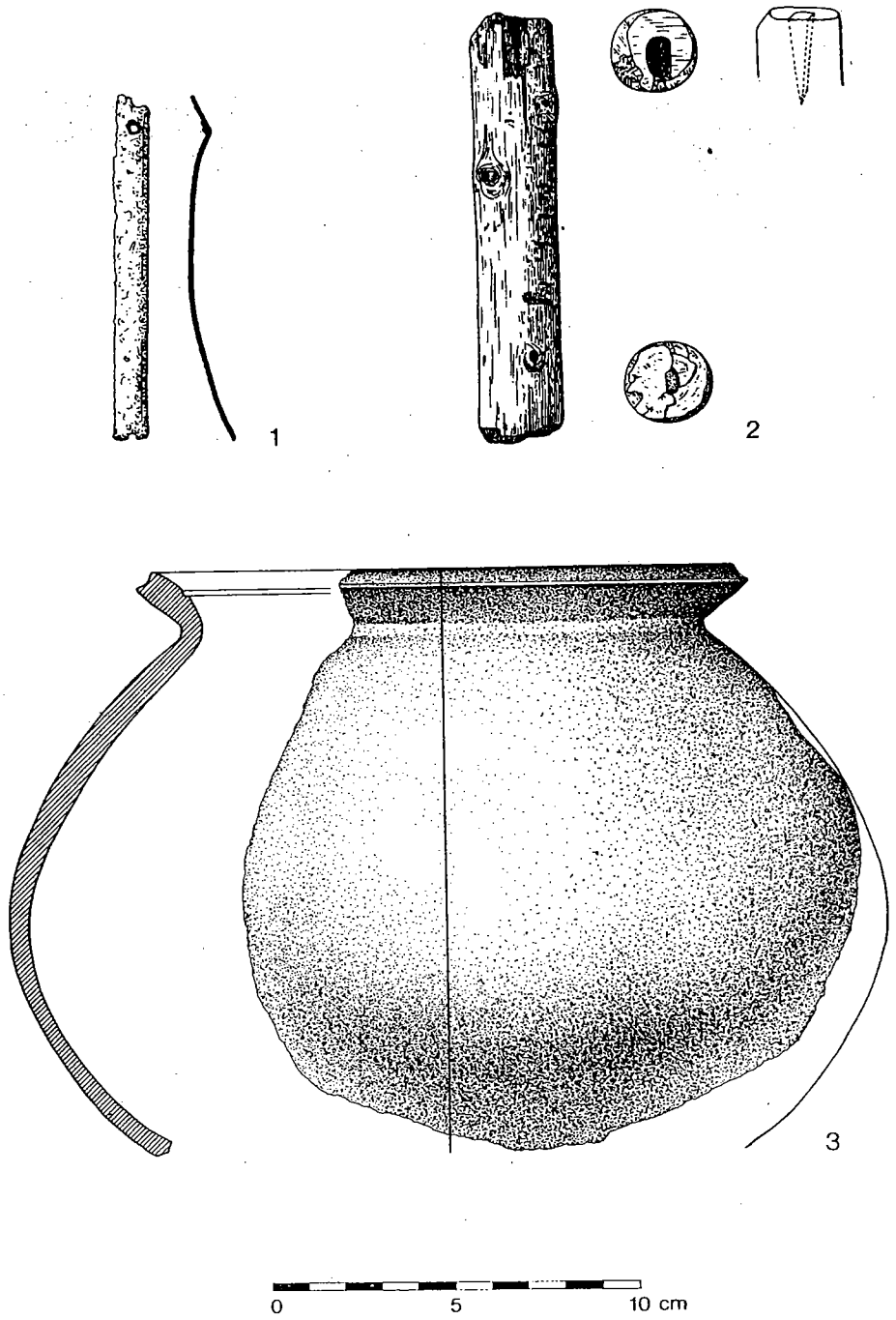


Fig. 9 Finds from the north-western F-System (90/14): 1 Location 2 (bronze); 2 Location 2 (wood); 3 Location 3 (pottery). Scale 1:2.

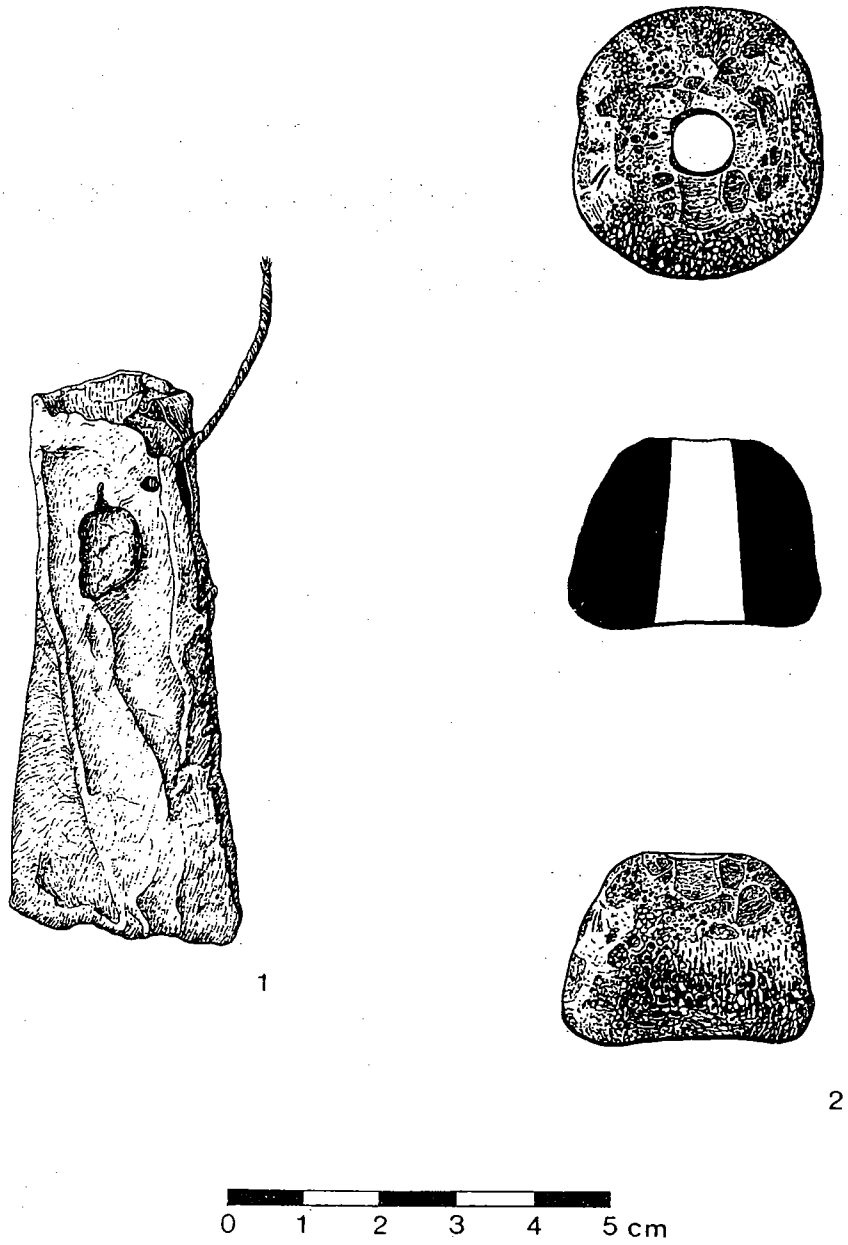


Fig. 10 Finds from 90/14, Location 2: 1 small leather bag; 2 spinning-whorl of antler. Scale 1:1.

Dendrochronological Research in South Mustang

-B. Schmidt

Introduction

In different areas all over the world, where boreal, temperate and arid climate zones prevail, dendrochronological data nets are being set up for dating purposes and climatic and ecological studies.
Tree ring research has widened its horizons more and more during its development.
F. Schweingruber (1988) describes this branching out clearly in his book Tree Rings and demonstrates the possible connections with other fields of studies.
The dating of wood and timber specimens of particular historical value plays a large roll within this science. Archaeological wood finds and timbers from historical structures and settlements should be considered foremost. Sculptures, paintings on wooden panels or even antique furniture can be of value to the dating process.
In connection with geological queries, one can date for example, the former meandering of a river with the help of chronologically arranged wood or timber finds from gravel pits along its banks. Wood finds in moors enable one to better understand the dynamics of moor growth and its development in prehistoric times.
Cooperation between different areas of research is of great significance. The dendrochronologist can be supplied with a greater range of wooden specimens for dating purposes, that are advantageous to their research with regard to climatic and ecological analysis.

General information about the construction of tree ring calendars

The achieved width of a single tree ring during a growth period can be described as the result of various influences, that partially correlate with one another. One can quite often see, even without the help of a microscope, that the width of a single tree ring varies from year to year. The

fluctuating climatic conditions each year are responsible for their difference. The dendrochronological dating method is based on this phenomenon. The sucession of narrower and wider tree rings is often so distinct, that one can speak of tree ring patterns. In the case of trees that

1) are the same age
2) that have built more than 50 rings
3) that are of the same wood type
4) and that grew in the same area,

one can observe a clear conformity in their patterns. The curves of trees that grew in different areas show therefore less conformity with one another. When one wishes to date the tree ring curve of a particular wood specimen, whose age is unknown a so called reference tree ring curve is necessary. This curve must at least date back to the time in which the specimen grew. The plotting of such reference curves has been a main concern of dendrochronology since its beginnings. Here lies the key to the sucessful dating of material.

Since trees generally rarely reach an age of more than 200 to 300 years, one can merely plot a reference curve from living trees for this period. The desired extension of such a curve can be achieved through "bridging". Older and older generations of trees (for example timber specimens from houses, castles and monasteries) must be sought out. The younger end of a tree ring curve to be dated must overlap and correlate with the older end of the reference curve for accurate dating. This is called "bridging". (fig. 1)

Two requirements must be met when using the dendrochronological method to date wooden specimens:
1) a complete reference curve is necessary, that at least dates back to the time when the specimen in question grew.
2) and the curve of the specimen to be dated must correlate so closely with the reference curve, that it can be accepted as synchronous.

One cannot expect to find perfectly correlating curves of trees that are the same age, because of the manifold influences upon their growth over a one year period. Whenever curves are compared, the dendrochronologist must clarify whether the correlation is accidental or not. This decision can be made much more easily with the help of mathematical calculations, yet it cannot replace the actual overlapping of curves on a viewing table.
The progress that dendrochronology has made in the last few years can mainly be put down to the use of modern measuring and calculating devices. Computer programs are of course also used to compare and synchronize curves.

The development of several tree ring calendars for western Europe

Since the beginning of the 1970's dendrochronological research has especially focused on extending the absolute "oak chronologies" for western Europe. Taking into consideration the regional climatic differences, dendrochronologists have already been able to correlate 1000 years of "oak chronologies" for Hessen (Germany), southern Germany (Huber, v. Jazewitsch, John, Wellenhofer; 1949) and western Germany (Hollstein; 1965). The analysis of recent oak trees from different areas in northern Germany have not yet resulted in a satisfactory overlapping with other curves. Further research with greater amounts of test material has shown however, that tree ring analysis could be put to use, even in this area (Bauch, Liese, Eckstein; 1967). Due to further research more and more tree ring

chronologies, for example from northern Ireland (Baille; 1977), southern England (Hillam; 1980), southern Denmark (Bartholin; 1973), Mecklenburg (Germany) (Jährig; 1972), Weserbergland (Germany) (Delorme; 1972) and northern Switzerland (Schweingruber, Ruoff; 1979) could be added to the list. Early investigations of oak finds from gravel deposits along the Donau and Main rivers were also promising.

In 1972 laboratory work was begun in Cologne. The main point of focus there was the examination of oak tree trunks from gravel deposits along the banks of the Weser river between the villages of Hameln and Rinteln. Another source of material came from moor areas, where Rhine river tributaries once flowed (Schmidt; 1973, 1975, 1977).

Holocene dendrochronology has made remarkable advances since the first PACT symposium Titled " 14^c and Archaeology". The U.S. bristelcone pine series was extended back to 6700 B.C. in 1983 (Ferguson and Graybill; 1983). Just one year later the Belfast tree ring laboratory succeded in closing the gap in the west european "oak chronology", which now reaches back to 5289 B.C. (Pilcher et al.; 1984. The German "oak chronology" researched by the laboratory in Goettingen in 1987 was extended back to 6255 B.C. (Leuchner, Delorme and Höfle; 1987). Due to the cooperation between the tree ring laboratories in Cologne and Hohenheim, the German tree ring chronology reaches back to 7237 B.C. (Becker, Schmidt; 1990).

The accuracy of this holocene tree ring record, which is the most one extensive in the world, has been confirmed by high precision radio carbon dates.

Early dendrochronological results from the southern Mustang region

During the last two campaigns (March 1989 and October 1992) about 400 wooden specimens were collected to aid in the construction of a tree ring calendar for south Mustang.

A newly established field laboratory in Jomsom (fig. 2) improved our working conditions (in October 1992). The specimens taken from the forests near Thini and numerous houses and ruins between Marpha to the south and Dzarkot (Jharkot) in the north could be analized there.

Fifteen pine trees taken from a forested area near Thini were analysed. Thereafter, a tree ring curve for the years 1992 back to 1804 could be plotted (fig. 3).

The pine from the old ruined monastery in Muktinath proved suitable for extending this tree ring curve, in which the "bridging" method was used. The correlation between their curves and the ones plotted from living trees can be seen in the diagramm (fig. 3). According to these finds, the wood used in the construction of the monastery (the youngest tree ring before being chopped down) was felled in 1906. The oldest tree ring from these pine specimens (growth period of the trees) dates back to 1768. The calendar can therefore be extended back to this time.
A calendar spanning 538 years was constructed with the help of the 267 specimens, that have been dated up to this time. It is now complete between the years 1992 and 1455 (fig. 4).

As seen in figure 3, we were able to construct a chronology from living trees (drilled specimens), that reached back to 1804. Since we weren't been

able to find any older suitable material/trees to date, we used, in addition to the specimens from the monastery in Muktinth, numerous ones from a joiners workshop in Thini and others from the roofs of houses in Marpha and Thini.
With the help of these specimens, we have been able to set up a chronology that spans 285 years. Exact dating was made possible by the chronologies constructed from living trees. Consiquently, we were able to extend the calendar back to 1697.
As shown in the diagram (fig. 5) the wooden specimens taken from a house in Kagbeni (The Red House), as well as the finds from the ruins in Garab Dzong / Old Thini (fig. 6)), made it possible to extend the tree ring calendar back to the year 1455.
The tree ring calendar has already helped answer questions about an important time span of archicetural and settlement history. A specimen from the foundations of the kings palace in Dzarkot (felled in 1512) could only be dated after these first analyses.

Several of the timbers samples taken (in October 1992) from the ruins in Garab Dzong could also be dated. Two specimens (fig. 6), for example, from the foundations of the ruins, that jutted out of the upper part of the plateau, could be absolutely dated because of this. The youngest tree ring (felling year) of both specimens (dendronr. 061, 062) dates from 1533. The fact that these samples were taken from the foundations of the ruins, one can most probably say, that construction was begun in 1534. The rest of the material analyzed to date is all younger. As shown in the diagram, construction also took place in 1779 (dendronr. 042, 027, 028, 037).

Wooden specimens taken from the castle in Kagbeni and Dzarkot can now be dated absolutely (fig. 7). The dates shown here do not allow for a better interpretation as yet, seeing that the material was chosen exclusively for dendrochronolocical use. This also applies to the dating of the samples taken from the houses in Kagbeni (The Red House) and Dzarkot (Palgon Thakhuri) (fig. 5 & 8).

This chronology now offers new dating possibilities when researching architectural and settlement history in this area.
The tree ring calendar will certainly be further refined and most probably legnthened, when more material is dated in the future. A greater number of specimens are needed for the planned climate analyses.

Fig. 1: From: Schweingruber (1988). The bridging method. The fluctuation in the width of tree rings (narrow and wide rings), that occur because of varing climatic conditions, is quite similar in trees of the same age.

Fig. 2: The area of dendrochronological research in southern Mustang: form Muktinath to Tukche.

Fig. 3: Two synchronous tree ring curves: a) a curve plotted from samples of living trees, that dates from 1992 back to 1804 and b) a curve of various timbers taken from the monastery in Muktinath, that date from 1906 back to 1768. The dated timbers from the monastery extend the chronology (an example of the bridging method) back to 1768.

Fig. 4:This diagram represents the period from 1455 to the present. It was constructed with the help of samples taken from living trees and timbers.
n. Chr. = A.D.

Fig. 5: The various ages of timbers form different

parts of the Red House represent the stages of construction.

Fig. 6: The time span represented by dendrochronologically dated samples from the ruins at Garab Dzong (Old Thini). Early results show, that the settlement existed between 1533 and 1779.
n. Chr= A.D.

Fig. 7: The first dated samples from the castles in Kagbeni and Dzarkot

Fig. 8: Dzarkot, Palgon Thakhuri House - An example of how a house is dated. All timber used in the construction was felled in 1779. Construction was most probably started one year later.
n. Chr. A.D.

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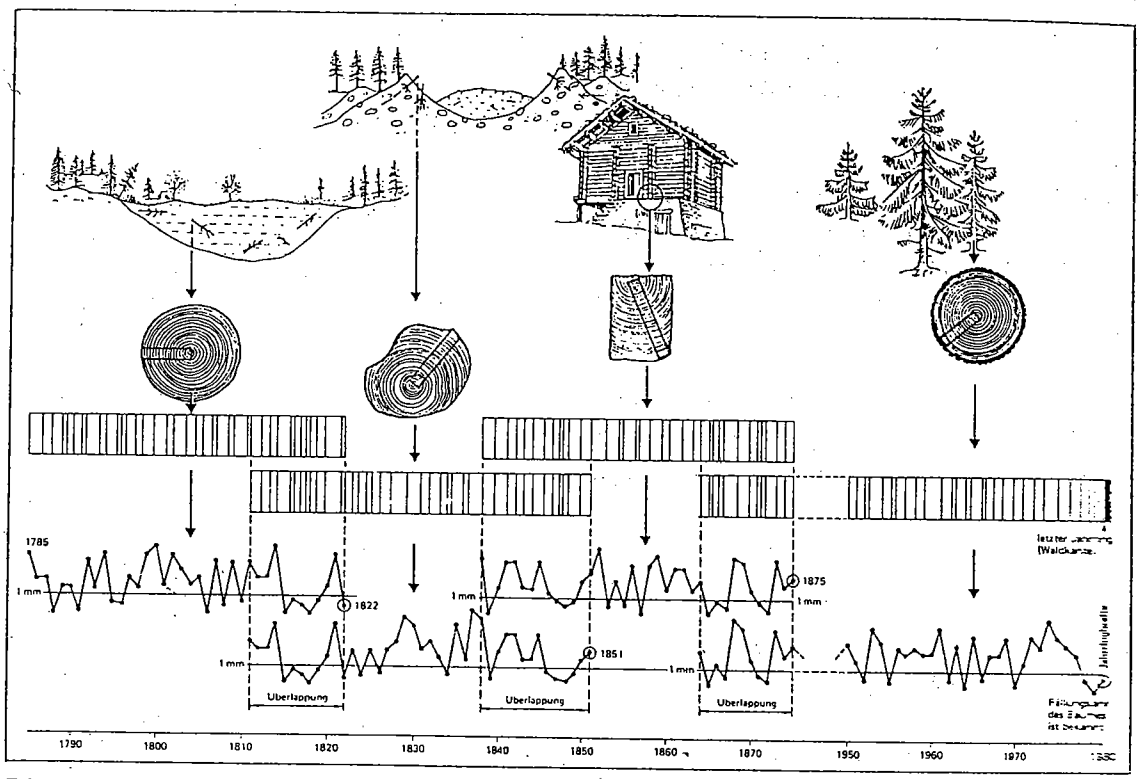
1785
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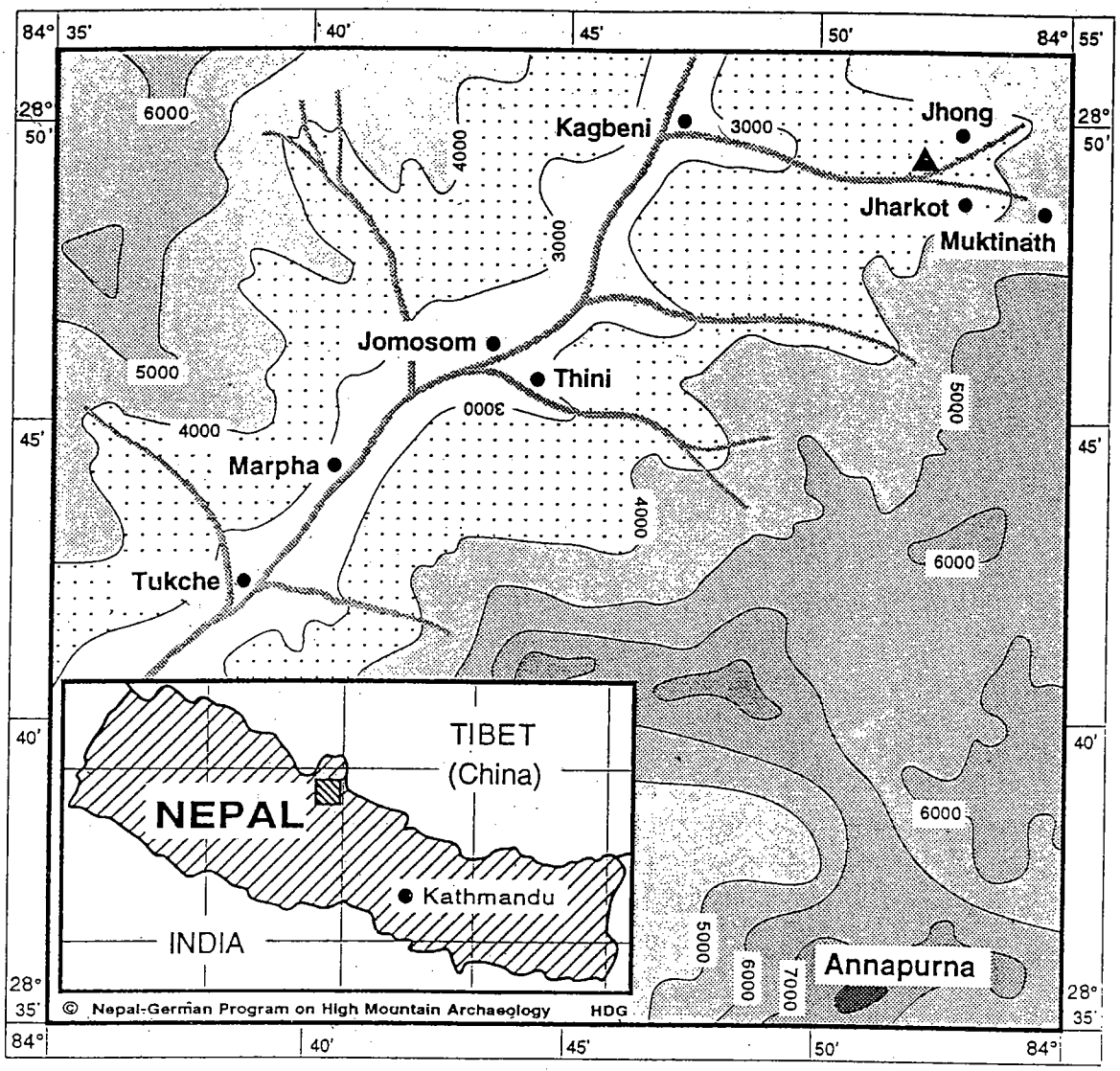
Fig. 1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Kagbeni
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Muktinath
Jomosom
Thini
Marpha
Tukche
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(China)
NEPAL
Kathmandu
INDIA
Annapurna
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© Nepal-German Program on High Mountain Archaeology HDG

Fig. 2

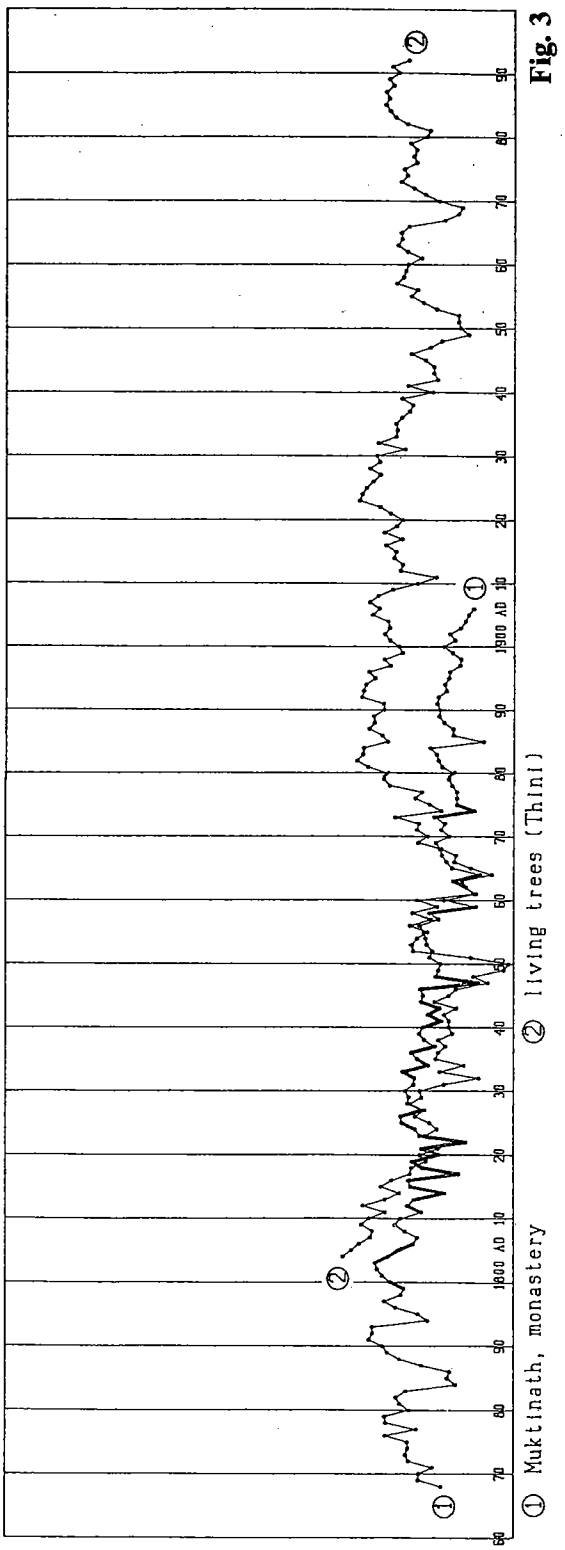
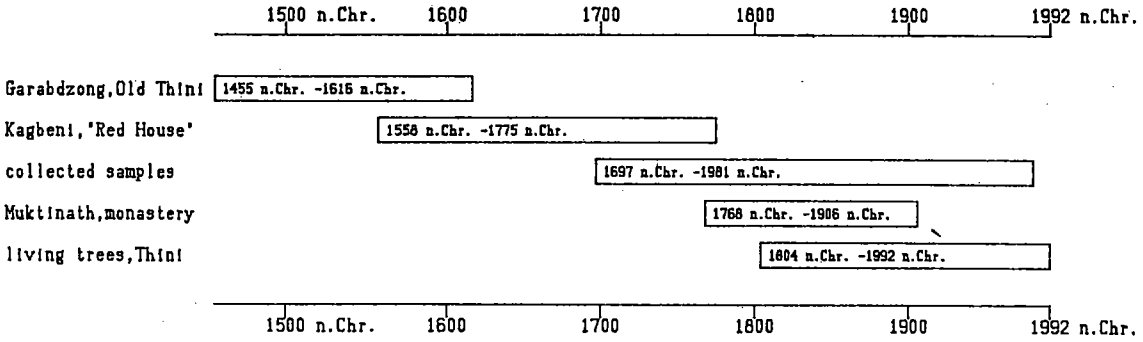


Fig. 3


1500 n.Chr.
1600
1700
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1900
1992 n.Chr.
Garabdzong,Old Thini
1455 n.Chr. -1616 n.Chr.
Kagbeni,'Red House'
1558 n.Chr. -1775 n.Chr.
collected samples
1697 n.Chr. -1981 n.Chr.
Muktinath,monastery
1768 n.Chr. -1906 n.Chr.
living trees,Thini
1804 n.Chr. -1992 n.Chr.
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Fig. 4

Kagbeni, 'Red House'

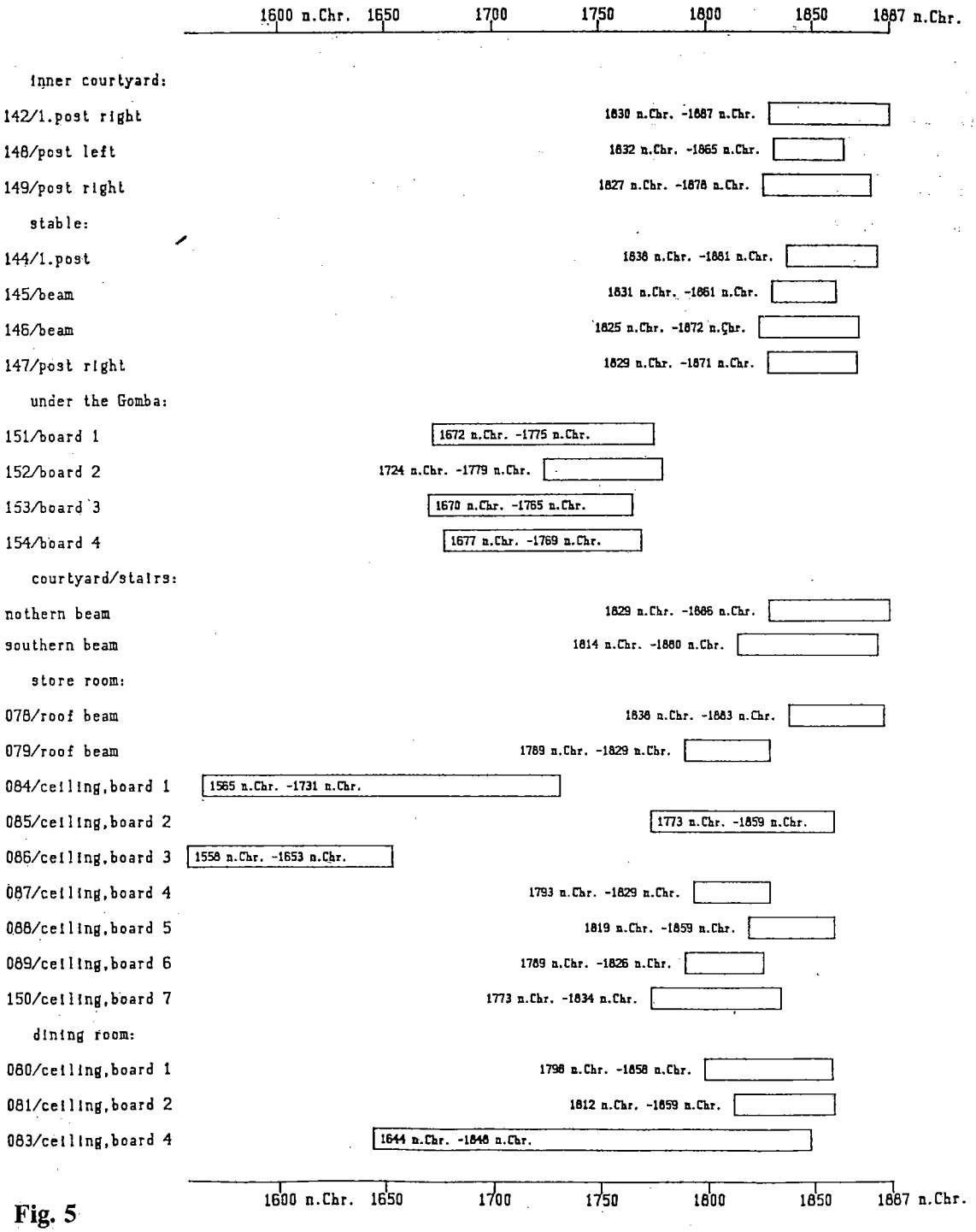

Fig. 5

Garab Dzong / Old Thini

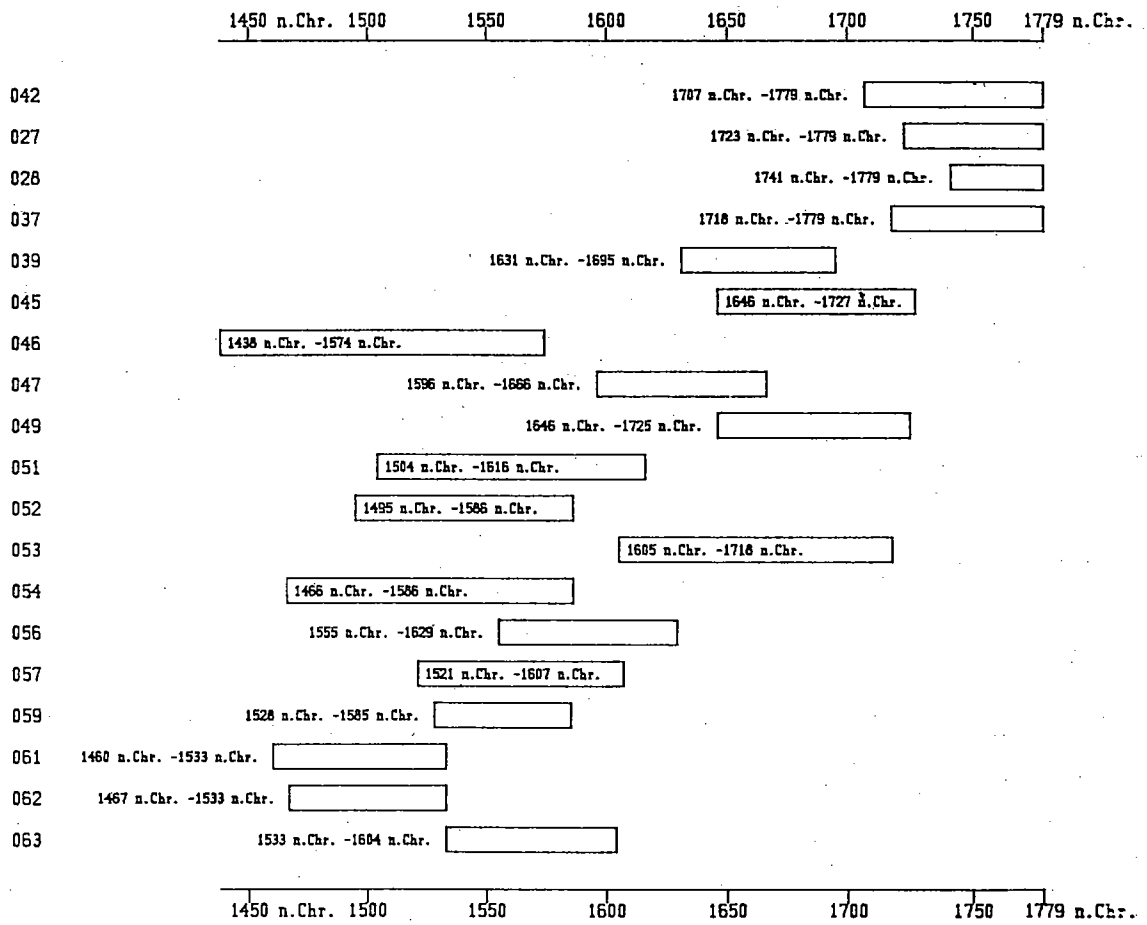

Fig. 6

Castles in Kagbeni and Dzarkot

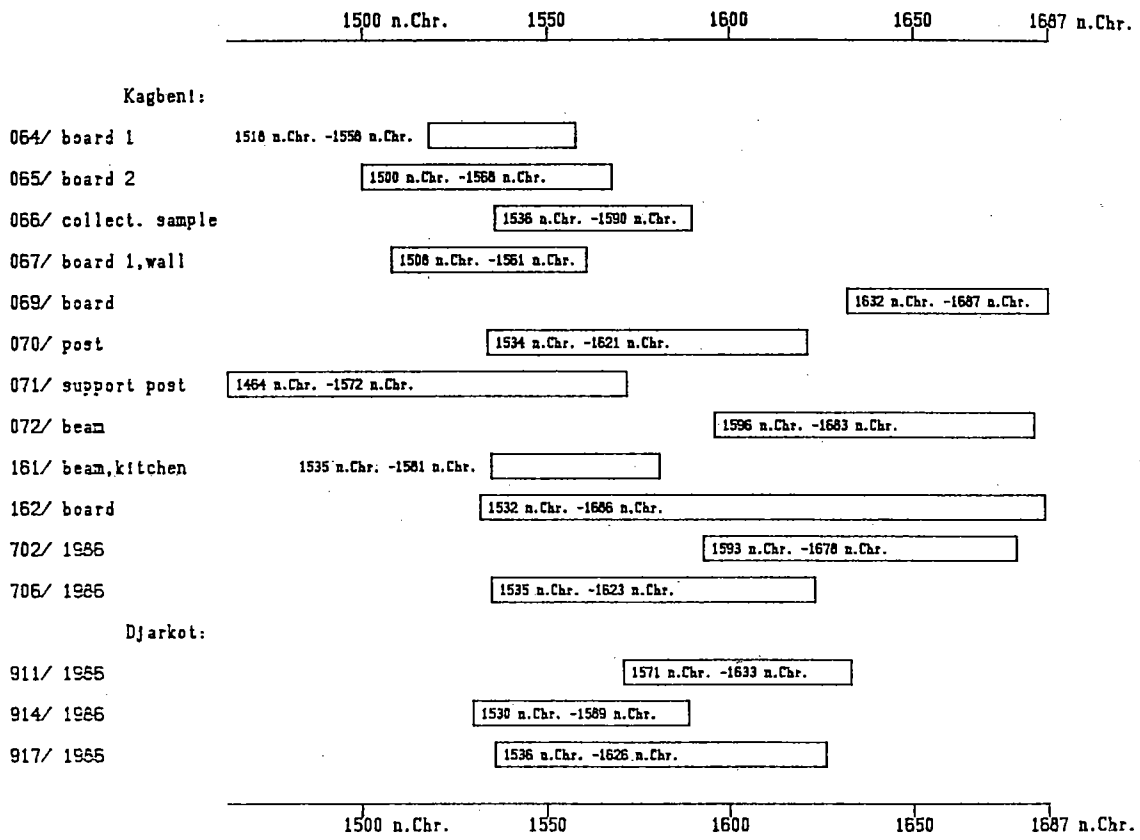

Fig.7

Dzarkot, house of Palgon Thakuri

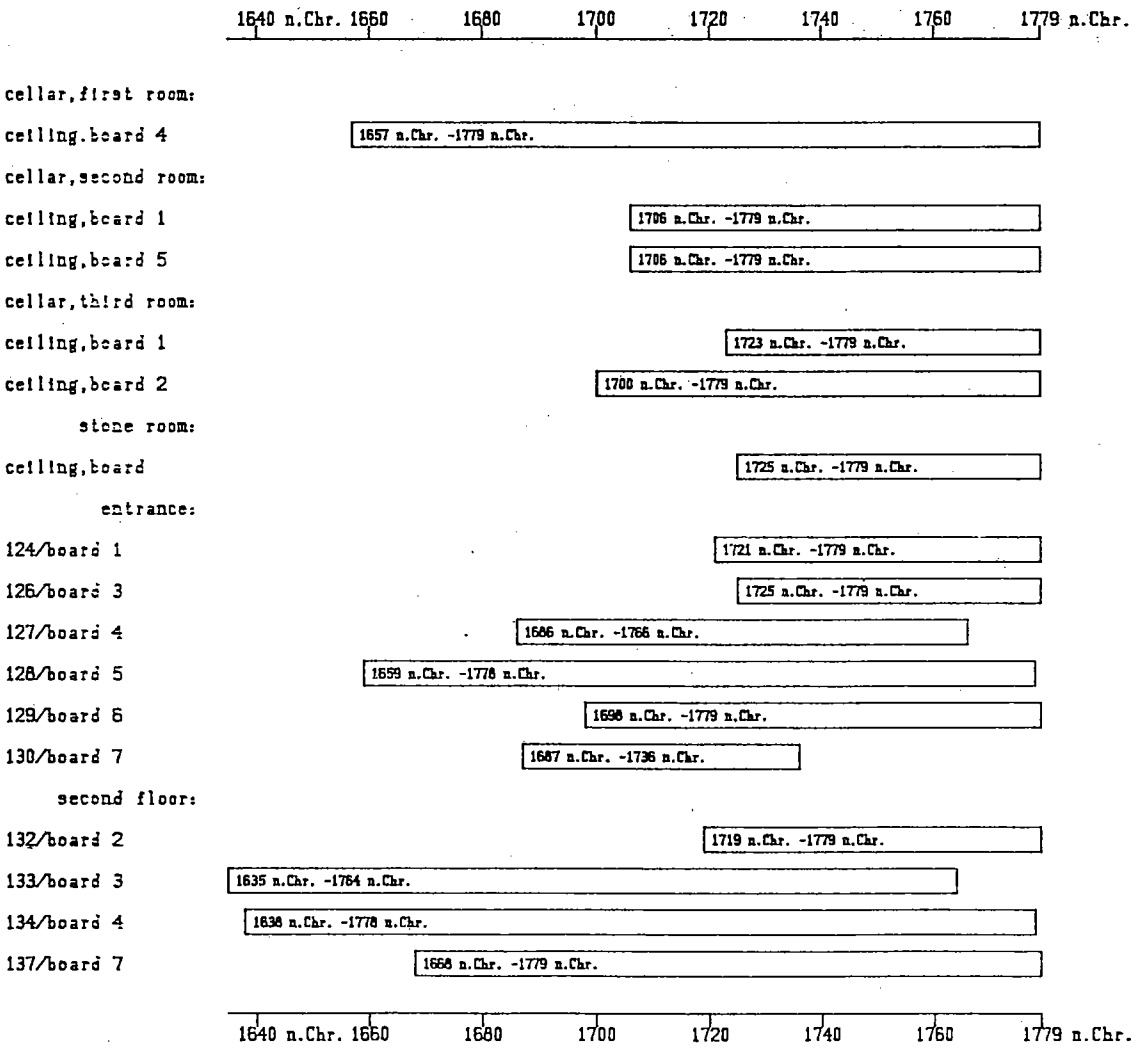

Fig. 8

Important Trade Routes in Nepal and Their Importance to the Settlement Process

-Rainer Graafen and Christian Seeber

1. Introduction

The aim of the Trade Route Research Project is to map the historically important trade routes in the region being examined by all the projects in the multifaceted study "Settlement Processes and State Formation in the Tibetan Himalaya". Brief descriptions of the trade routes with reference to their significance for the settlement process are also to be prepared. In trade and transport geography it is considered a certainty that settlements (residential settlements, castles, monasteries, etc.) and trade routes are inseparably bound together. In very many cases the growth or decline of settlements can be directly attributed to the building of new trade routes or the extension of existing ones. It has been demonstrated that the construction of a route results in the establishment of businesses connected to the transport of goods and passengers (for example, boarding houses and roadside taverns) and in the creation of other transport-related establishments (castles for safeguarding the route, customs posts, etc.). Larger villages and cities often develop at the beginning of trade routes. People settle preferably near trade routes because with them they have the possibility of quickly reaching other places, such as markets and administration centres.

2. Results of the research of old cartographic and written sources from the archives of the India Office Library and Records and the British Library (both in London)

Towards the end of the 18th and the beginning of the 19th century, increasing numbers of Englishmen travelled to Nepal. Among other reasons, including strategic ones, they undertook this journey to establish trade channels between

India and Tibet. Among the significant travellers at that time were William Kirkpatrick, Charles Crawford and Francis Hamilton. Many maps and travel reports prepared by them are kept in the India Office Library and Records as well as in the British Library. Old maps are particularly valuable sources for trade route and transport research because they show the appearance of the cultural landscape, including the courses of the trade routes, for a relatively large area at a particular point in the past. Some old maps are listed in bibliographies; here it is mostly a matter of the most valuable items (cf. specially for the archives in London: L. Boulnois: Bibliographie du Népal Volume 3; Cartes du Népal. Paris 1973. - H. Gurung: Maps of Nepal. Bangkok 1983). However, very many maps, plans and sketches that are filed away in documents, files or travel reports are not recorded in any bibliography.The following paragraphs will introduce some of the important old maps which we discovered in London and on which South Mustang is shown. The oldest map on which this area appears was prepared in 1802-03 by Charles Crawford (cf. illustration 1) and has the following title: "A Map of the NEPAUL TERRITORIES and other PORTIONS of the HIMALAYA MOUNTAINS, delineating: - the headwaters of the Ganges from Gangoutree, Kedarnath, and Badreenauth; - the source of the Western Gunduck from Mustang on the north of Mukteenauth, with the situation of the course of the Brimpootra beyond... Also routes through Nepaul from Dugartcheh (Shigatze) on the east, to Gangoutri and Durdwaur on the west". (scale, about 1:918.700; size 1290/750 mm). On this map the landscape is portrayed in a very simplified and genralized manner, owing to the rather poor knowledge of map-making at this time. The mountains, for example, are rendered as little hills, and all the villages are drawn uniformly on the leftbank of the Kali Gandaki. Nevertheless, this map contains much meaningful information for the trade route researcher: around 1800 there was already a good route through the Kali Gandaki Valley. In addition, religious sites along the routes are also indicated. The comment "Here the Saligram Stone was found" appears next to Muktinath, and south of Mustang one sees the note "Saligram here found".

Much more exact than the map by Crawford is the "Sketch Map of Western Nepal... With Routes by various explorers", scale 1:506.880, prepared in 1887/88 by Colonel H.C.B. Tanner and Rinzin Nimgyal (cf. illustration 2). After about 1850 the procedure of triangulation was used in Nepal, so that measurement and, therefore, cartographic information became more exact and truer to reality. On this map broken lines show the course of streams, double broken lines show the routes of rivers, and dotted lines indicate the path taken by the explorers. Even if all the routes existing at that time are not recorded, but instead only those used by the explorers, one can at least say that they mostly sought out the best and fastest routes. From this point of view, the trade route researcher can determine among other things that the route from Kagbeni, through Marpha, Lete, and Ghasa and to Dana crosses the river seven times. There were, therefore, seven bridges along this route, indicating that the route through the Kali Gandaki Valley was already well built up at that time. Moreover this allows one to recognize that some stretches of the route have remained unchanged to this day, for example the stretch from Kagbeni to Dolpo. One also sees that many other stretches have lost importance in recent times, as for example the stretch between Tukche and Lete and Dana, where the path leaves the right bank and changes over to the left bank.

From about 1900 even more exact maps were prepared. An example of this is "Tibet and

adjacent countries" (scale 1:2.500.000), a map prepared under the leadership of Colonel Sidney Gerald Burrard, published around 1915, and clearly showing the channels of trade between India and Tibet. On these maps the trade routes through the Kali Gandaki Valley occupy a key position in trade in the Himalaya. The especially dense settlement of South and North Mustang corresponds to the importance of the trade along this route. Here there are considerably more existing settlements than in parallel valleys, which have no or only poorly developed routes to Tibet.

3. Exploration of routes in the research area (Fig. 1) [approach and results after first fieldtrip 1/1992 in Thak Khola, South Mustang and the Muktinath Basin]

3.1. Physico-geographical conditions of route constructions in the research area

In the Kingdom of Nepal the Kali Gandaki Valley represents a natural contact between two large regions. The valley was and continues to be a direct communication between Tibet (the Tibet Autonomous Region of the People's Republic of China) in the north and India in the south, via an area of Tibetan settlement in Nepal.
Furthermore, it concerns the deepest antecedent transverse valley running in a north-south direction not only in the Himalaya but the entire world. This geographical fact is the reason for a rapid and dense population in the northern hinterland of the main Himalayan ridge. Trade relations developed in the Kali Gandaki Valley and its tributaries in connection with colonization. Routes were needed for this traffic. Looking at the recent trail network we discovered that the courses of the routes are a result of adaption to the relief. Man as the constructor of trade routes wanted, if possible, to travel without difficulties to the destination area. A direct course was chosen, if possible with small loss of incline. Steep inclines were accepted only as an exception.

3.2. Proceedings to classify trade routes

Evidence of a long historical existence of routes in the research area is found in the form of the cave settlements (Fig. 8), especially in the cliffs of the middle and upper part of the rivers Kali Gandaki and the whole Dzong Khola (compare with project Haffner/Pohle). The remains of the settlements in this area indicate long-distance trade in prehistorical times and the necessity of routes. It will probably be possible to obtain chronological classification by using the results of the other projects.

With the construction of fortresses - the castles or residences of local rulers - in the Middle Ages, the network of routes had to undergo changes. Schuh (1992) has shown that, because of continual powerstruggles, there were changes in the connections between kingdoms as well as the areas of states, for example in the 16th and 17th century [Jumla; Tibet (Lhasa); Mustang (Lo); Thak; etc.]. Due to these developments the construction, expansion and degeneration of routes also changed.

3.2.1. Producing a trade route register

In order to compare recent routes and old route sections in the research area of Thak Khola and South Mustang (Fieldtrip 2/1992 and 3/1993) a register of trade routes was elaborated (Fig. 3). The register includes a description of the recent direction and position of all routes in the research area, as well as a description and examplification

of trail constructions. The register also contains references about the responsibility of the maintenance of the routes. Interviews in Syang and Jomsom show us that both villages are legally responsible for maintenance of the wooden bridge in front of the oldest part of Jomsom. Proof of this kind of historical statement, however, demands coordination with other colleagues (for example: project Schuh or Haffner).

3.2.2. Recording of route-accompaniments (buildings along the routes)

By searching for the position of routes or route-sections route-accompaniments often helped us. There are

1. natural accompaniments,
2. artifical accompaniments,
2. 1. sacral accompaniments,
2. 2. secular accompaniments.

Fig. 4 shows a preliminary differentiation of route-accompaniments, which will also be taken into the thematic maps (Fig. 8). Objects researched in other projects, for example buildings or ruins, monasteries, and fortresses will be included as "route-accompaniments in a broader sense".

3.3. Possibilities of dating of routes

Because of the first results in Schuh (1992 - translation of Tibetan sources) it is possible to draw conclusions between the construction, expansion and degeneration of routes. Besides this form of historical determination of trails the accompaniments can give information about the age of routes. The organic components in particular, for example wood, make dating possible (radio-carbon dating - DAI/Berlin; Dendrochronology project Schmidt/Köln). Here the chorten are relevant because of the great portion of wood in their construction. To date the wood is one of the problems which must be solved. If wood was also used a second time we are able to determine the minimum age of routes, respectively the accompaniments.

3.4. Producing a photo-register

The register of photos from the route sections and accompaniments also was set up. Beside photos, sketches and construction are collected plans (cross-sections; Fig. 5, 6 and 7). Now it is possible to compare routes for style or religious, overregional, regional or local influences. This step necessarily requires co-operation with other projects (e.g. Gutschow or Simons).

4. Construction of thematic maps

As a next step, thematic maps about the direction and position of routes at route sections were produced (Fig. 4 and 8). Presently a map about special route constructions, e.g. overhanging trail sections, sunken lane, etc. (Fig. 6) is prepared. After coordination with other partial projects á final thematic map representing the results will be drawn up.

5. Special results of the route research

In the research area no routes over ridges (in German "Firstweg") were found. The network of traffic consists mainly of paths on fluvial terrasses or fans. Having interpreted Tibetan historical sources we learned about the differences in using the routes in the research area. There were mainly two kinds of usage:

1. trade-routes and
2. routes of pilgrims (to the centre of Muktinath).

A third kind of usage, for military actions (administrative routes), is yet to be substantiated. Some ways between North Mustang (Lo) and the Muktinath Basin show some evidence for this kind of usage.

5.1. Routes as mediators in the geographical environment

After an initial period of fieldwork and archival studies, we found out that there are differences in the spatial importance of the routes. The ways for the pilgrims are an example for this. Since the existence of the pilgrimage centre of Muktinath Hindus from all parts of the Indian subcontinent have used these routes. With the foundation of the Buddhist religion pilgrims bound for Muktinath also followed from the Tibetan regions (Himalaya and Tibetan Highlands). Thus local connections between settlements in the Kali Gandaki Valley fulfilled an overregional function. Regional and overregional trade, especially the trade with salt, made route sections without pilgrims to important links between different regions. Links of traffic can be divided into:

a. routes with local function,
b. routes with regional function and
c. routes with overregional function.

All the trails with regional and overregional function were probably of double or multiple historical importance.

The section Jomsom-Khyinga-Jharkot (Dzar)-Muktinath (Chumikgyatsa-Thorang-La (Kan La)-Manang was used as a route for trade as well as for pilgrimage.

One of the first results of the fieldwork is the fact that important ways often are more influenced by the relief than by the settlement. In the historical centres of settlement routes often did not cross [Khyinga, Jharkot (Dzar), Dzong, Syang]. Some villages were and are nowadays located far away from the important routes of traffic. A conclusion which can be drawn from this is that the route along the Kali Gandaki Valley was of over-regional importance for the trade between India and Tibet. But further studies are necessary to prove these statements. Until now we have found only a few written documents about responsibilities for the construction and the preservation of the routes. Only the charges for the use of trails by yaks have been found in the local laws (§ 23, 17r in Marpha Bemchag from 1798).

5.2. Connections between the construction and the use of routes

Research work on the construction of routes in the middle Kali Gandaki Valley clearly showed that the routes have only been used by persons and hoofed animals (Fig. 5, 6, 7 &. 8.). The construction of the routes was determined by their dominant purpose. The major function of the connection between Kagbeni (Kak) and Muktinath [the holy shrine with overregional importance for Hindus and Buddhists] as a pilgrimage trail caused the expansion of this trail by the Hindu administration of Nepal.

Besides mule-tracks, routes in the solid bedrock, embankments north-east of Khyinga and steplike sections of trail were built. Thick embankments were piled up using fragments of rock and equipped with pavement, particularly in the geological sector of Dogger and Malm [Jurassic] (Fig. 6). Quarry rocks from solid (native) bedrock of this region and plaster had been used to built the embankments. Steep parts of slopes were provided with stairs or spacious steps. Teahouses, Hindu temples, Mani-walls and Mani-stone-heaps accompany the trails. The centuries-old laws and

rules of the preservation and cultivation of these pilgrims routes will soon be analysed. A determination of the age of the route accompaniments is also being prepared.

Trade routes were adapted to the seasonal water level of the Kali Gandaki River and its tributaries. The cliff-ways on the banks are a sign of it. The high expenditure of labour for building the routes indicates that they were used for trade in times of flood as well.

Route accompaniments like apricot trees (route Jomsom - fluvial fan of the River Jomsom Chu) verify that the ways in the research area have existed for many centuries. Their line, however, was shifted parallel to the routes towards the river by slope erosion. Old wooden irrigation canals and resting places for the porters provide information on the historical direction of the routes.

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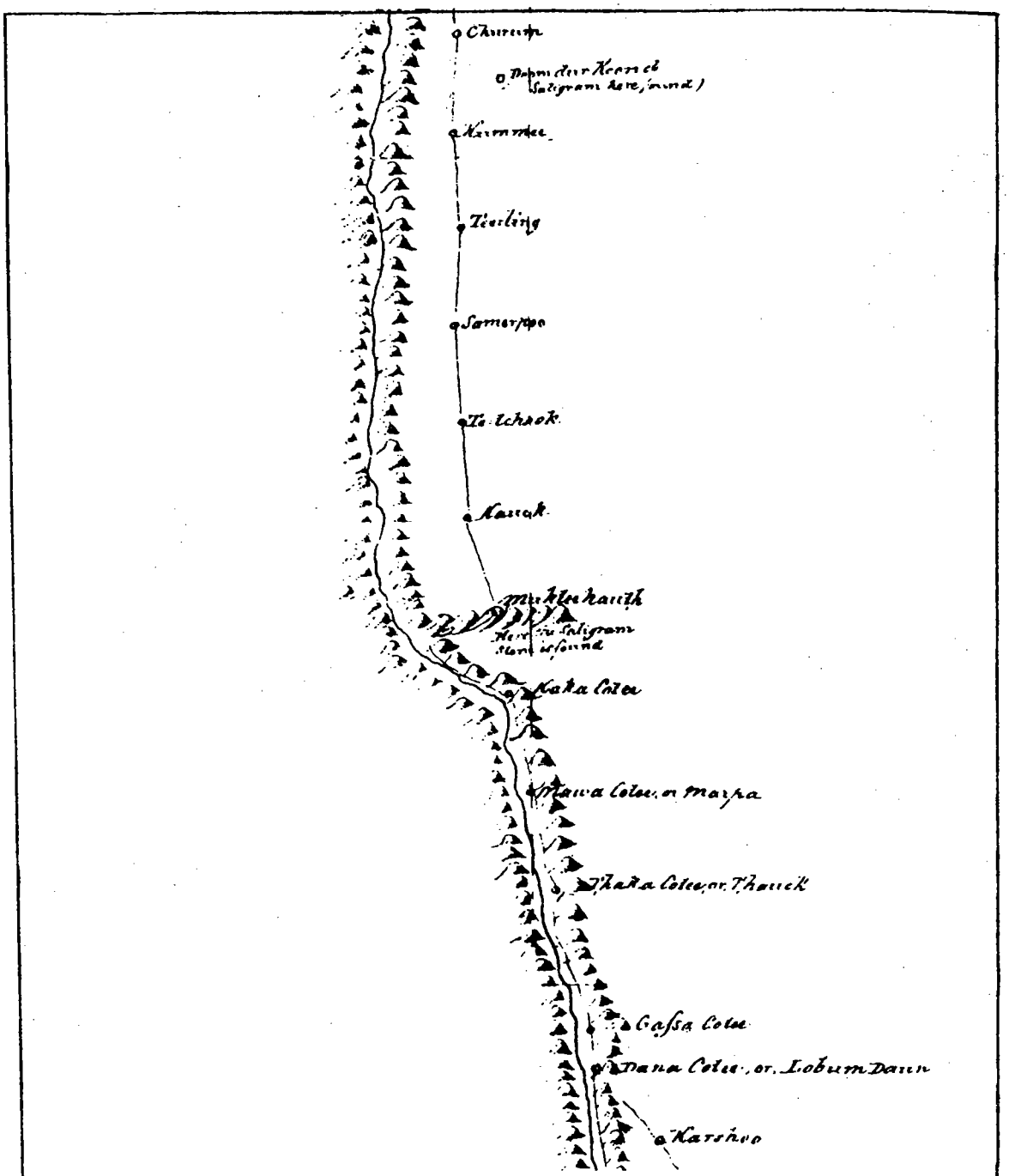


Illustration No. 1: Section of the map prepared by Charles Crawford (1802-03)

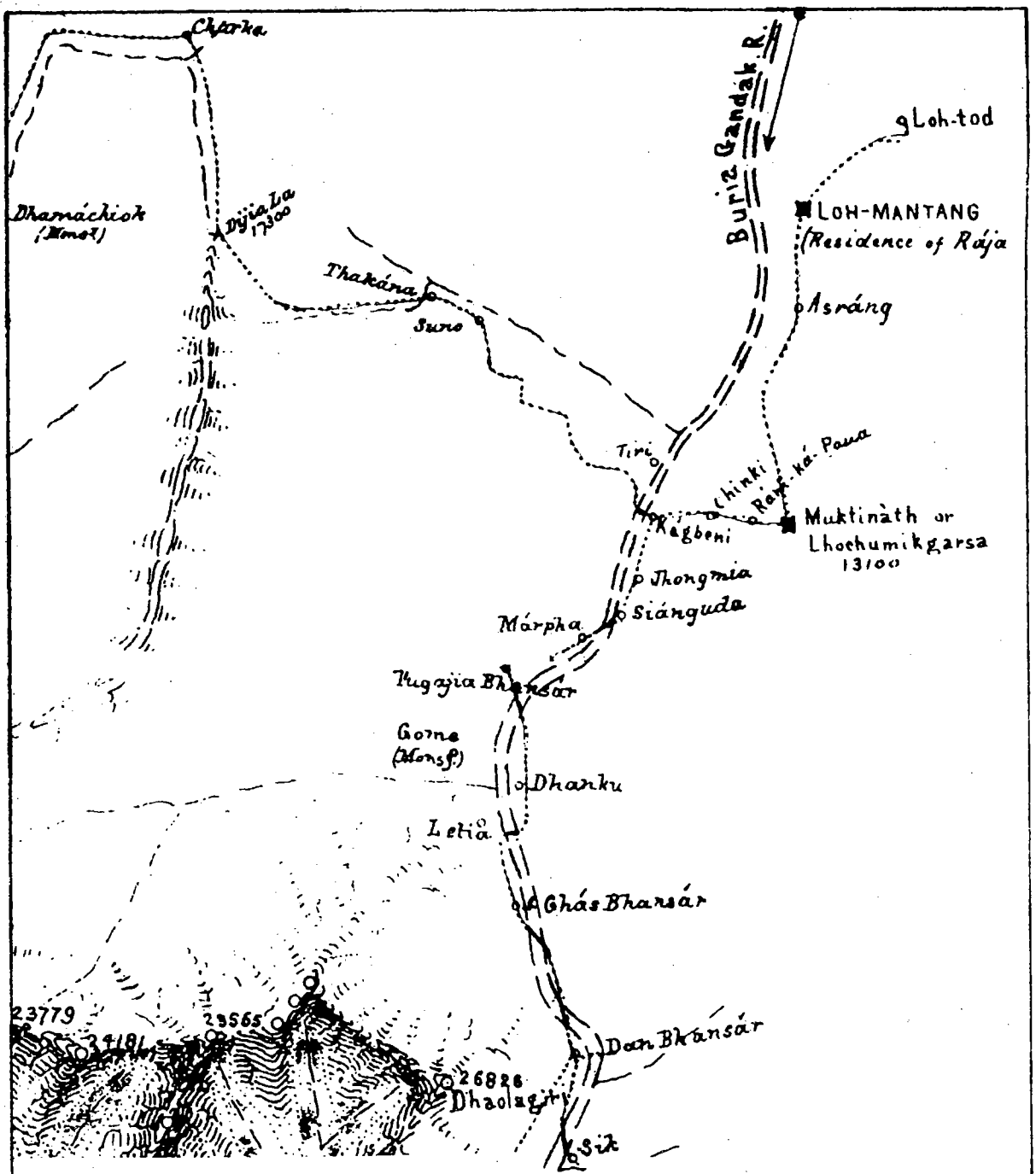


Illustration No. 2: Section of the map prepared by Tanner and Nimgyal (1887/88)

Fig. 1

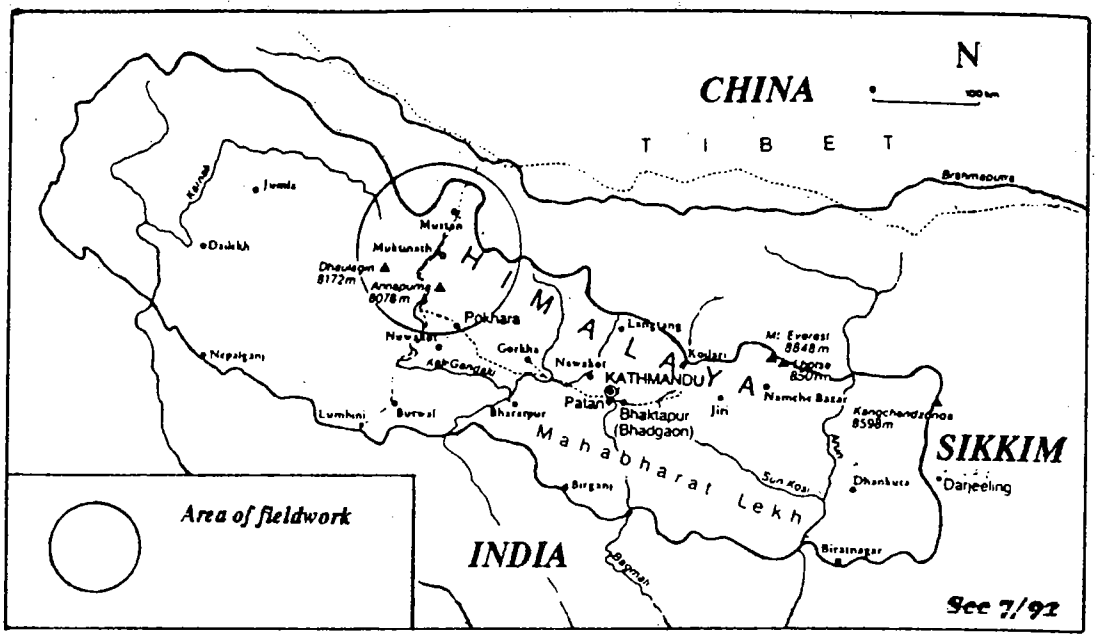


Fig. 2

N - S Cross-section of Central Himalaya (NEPAL)

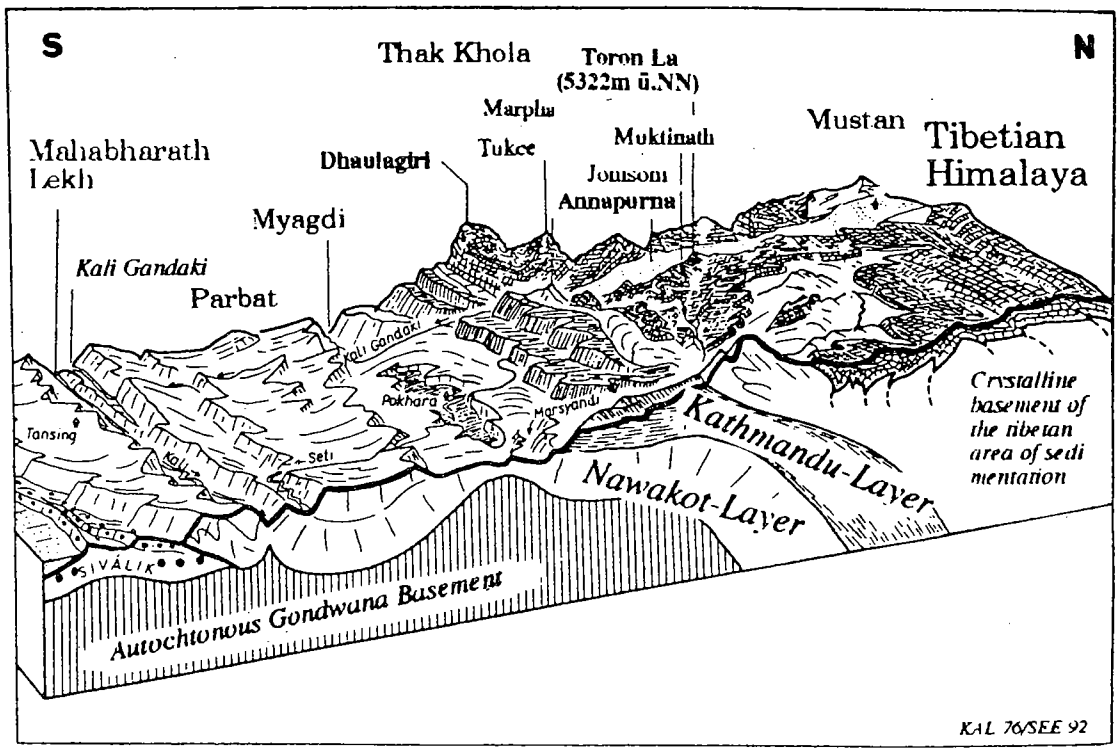


Fig. 3

Inventar historischer Verkehrswege
des Königreiches NEPAL/Mustang-District

Inventar-Nr.: 1

1.1.

Strecke: Jomsom(Zonsampa) - Dankarzon

Koordinaten:

Linienführung: Weg durch Tal des Kali Gandaki (rechtes Ufer) über marine und limnische Sedimente und glazigene Terrassen. von 28°45'n.B./83°12'ö.L. bis

Abschnitt: Jomsom(Zonsampa) - Dankarzon

Landkarten/Maßstab: Grundkarte 1 : 60 000, auf 1 : 25 000 vergr.

Siedlung: Jomsom(Zonsampa), Höhlensiedlung in glazigenem Konglomerat, Dankarzon

Hinweis auf Fortsetzung einer Inventarnummer:

Bearbeitung:Graa/See
Datum: 27.3.1992

Beschreibung:

Nach dem Verlassen des Ortes Jomsom in Richtung Norden teilt sich der Weg, zum einen führt er über die Flußterrasse, an buddhistischen Chörten vorüber, auf die an den Prallhängen des Ost-Ufers des Kali Gamdaki befindlichen marinen Sedimente. Zum anderen zweigt ein Weg in das Flußbett hinab. Dieser zweite sehr schwach ansteigende Wegabschnitt führt über die fluviale Schotterflur des Flußes bei Normalwasserwasserstand, d.h. in Zeiten der Auswirkung des Monsuns(Hochwasser auf Grund erhöhter Schneeschmelze und Regenfällen in Lagen über 3600 m) konnte dieser Weg sehr wahrscheinlich nicht genutzt werden.
Entlang dem rechten Flußufer gelangt man auf Höhe der Mündung des Panda Khola (Alluvialfächer) auf einen Wegeabschnitt, welcher über anstehendes tektonisch gefaltetes Sedimentgestein (marine S.) verläuft und dessen Korpus mittels Kalk-, Sandstein- und Quarzitplatten gesichert ist. Er befindet sich in diesem Abschnitt oberhalb der Hochwasserlinie (2770 - 2775 m ü. NN)(s. auch Photo-Nr.:).
Mittels dieses gesicherten Wegabschnittes wird ein derzeitig existierender Flußmäander umgangen, dessen Flußbett von Menschen und/oder Tieren nicht durchquert werden konnte und kann. Es ist anzunehmen, daß in historischer Zeit diese Form des Wegebaus im Prallhangbereich zur Anwendung kam (s. Photo- Nr.:).
Nach diesem etwa 60 Meter langen Teilstück führt der Weg über Flußschotter und glazigene Konglomerate (enorm hoher Anteil an Eisen-Konkretionen).
In diesem Bereich (2775 m ü.NN) befinden sich im Bereich der Schlucht eines dem Kali Gandaki tributären Nebenflußes mehrere Höhlen in unterschiedlichen Niveaus.

Durch fluviale Erosion wurden große Teile des Konglomerates verlagert und dadurch die ursprüngliche Größe der Höhlen verändert. Eine antropogene Anlage und Nutzung dieser Höhlen ist, anhand der Baufom, zu vermuten. Eine Sekundärnutzung durch den Menschen läßt sich mittels Begrenzungssteinen an Höhleneingängen und Stützmauern nachweisen (s.Photo-Nr.:).
Der Weg führt um diese Siedlung nach NNW und besitzt eine Neigung von 40°.
Auf etwa 2805 m ü.NN. erreicht der Weg eine Terrasse mit spärlichem Bewuchs. Auf den nunmehr tangierten Flächen erscheinen alte Feldraine und Terrassenfeldfluren, deren Flächen zum Erosionsniveau hin geneigt erscheinen, was auf eine Nutzung in humideren Klimaabschnitten bzw. auf Regenfeldbau schließen läßt (Photo-Nr.:).
Der Weg führt in Form eines sehr schmalen Pfades auf eine weitere Glazialterrasse in ca. 2900 Metern Höhe und umläuft eine Waldung von Koniferen. Darauf folgende Terrassen werden mittels Bewässerungssystem ackerbaulich genutzt.
Auf ca. 3200 m.ü.NN ist die Siedlung Dankarzon erreicht. Ein ca.500 Jahre alter Aprikosenbaum (dendrol.Untersuchung in Vorb.) begrenzt eine aus SSW-Richtung kommende Erosionsschlucht und ist zugleich Wegbegleiter. Der Weg führt in Folge durch Schafs- und Ziegenkraale zu einem künstlichen Weiher. Dieses Speicherbecken dient der Bewässerung unterhalb des Dorfes befindlicher Felder. Sehr alte Zypressen (dendrol.Untersuchung) säumen das S-Ufer.
Über einen 30 cm breiten Damm (trennt Bewässerungsgraben vom Teich) wird der SE-Rand des Dorfes erreicht. Die Häuser weisen die typische tibetische Bauweise auf, d.h. über dem Stall befindet sich der eigentliche Wohnteil der Gebäude.
Der Weg durchläuft das Dorf von E und biegt dann nach ENE in das Kerbtal des Panga Khola ein. Am N-Hang des Tales führt der Weg WNW steil hinauf und erreicht die Siedlung Phelak.

Sacral accompanists

Chorten(buddh.)

Manistonewall

Manistonewall &. prayer weel

Manistoneheap

Monastery (Gompa)

Temple/place of pilgrims

Secular accompanists

Fortress(ruin)

Teehouse

Teehouse/Lodging

Building of Subv

Building of customs

old irrigationsystem

Cavesettlement

Naturnl accompanists

coniferous wood

hardwood

fruit trees

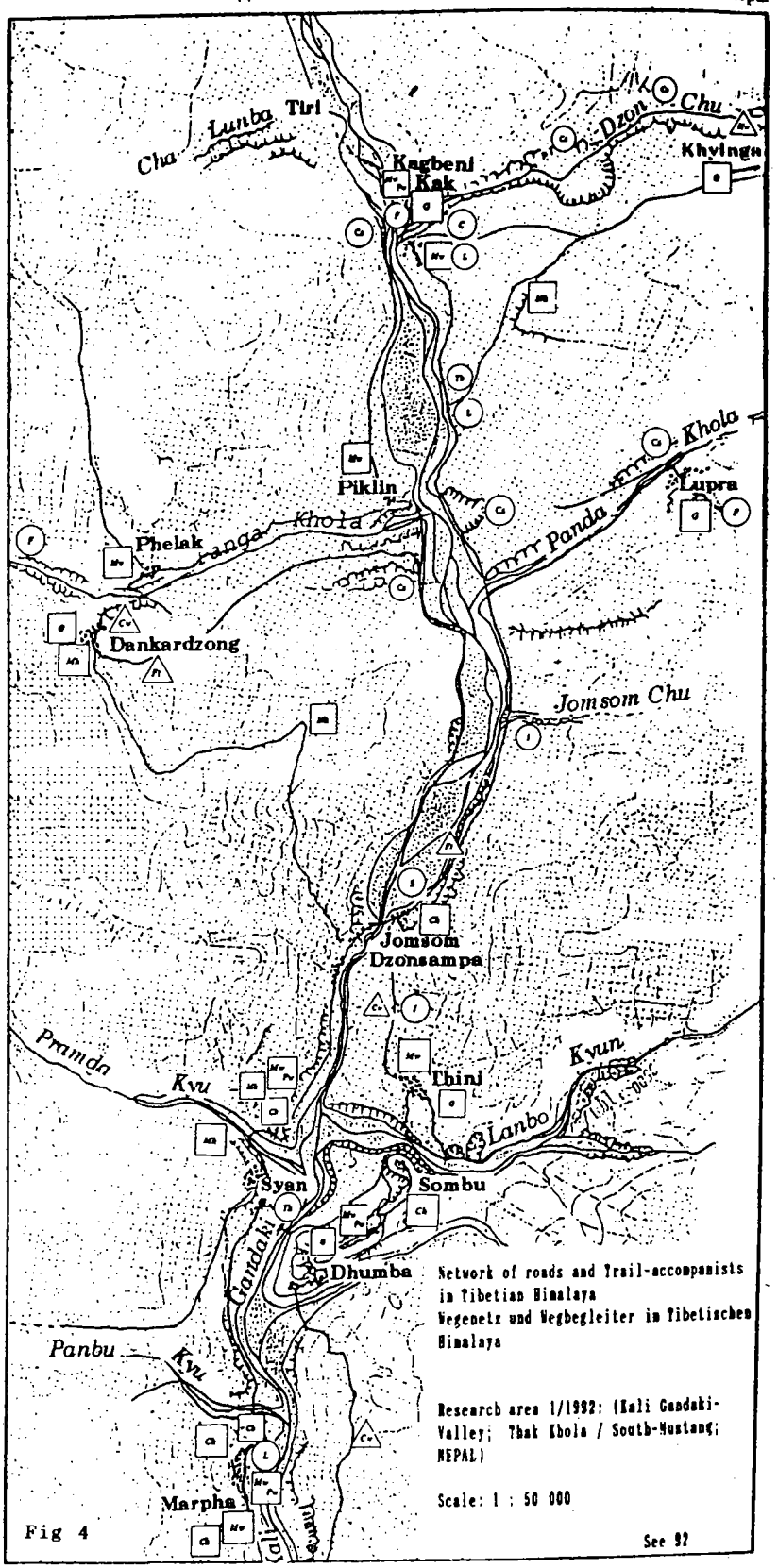
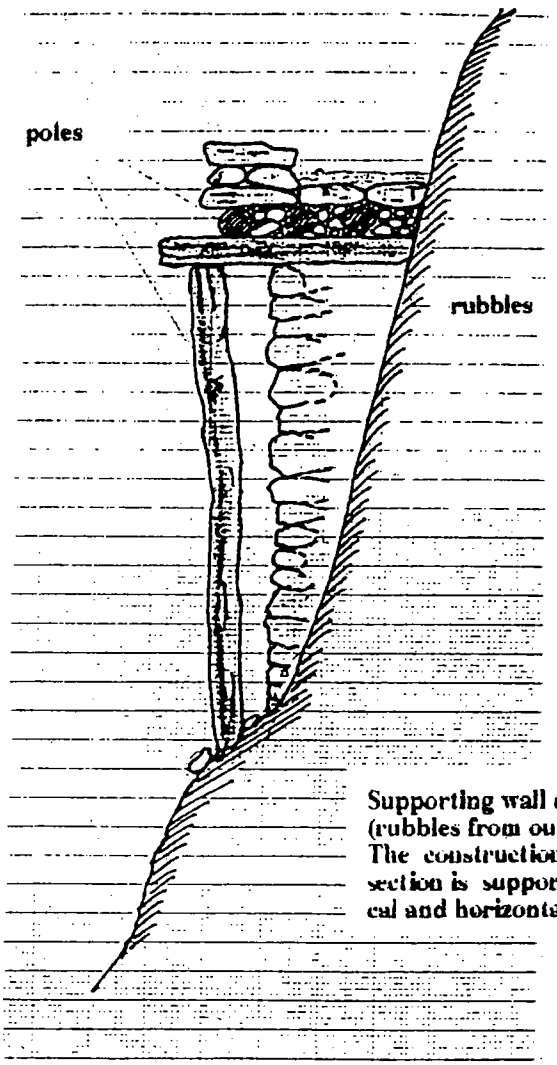


Fig 4

Fig. 5

Jomsom(Dzonsampa) - Kagbeni(Kak)
Cross-section of a Route for pilgrims and trading caravanes(porters, mules, horses, zo'o,etc.)



Supporting wall of a "hem-route" (rubbles from outcrop rock)
The construction of this route-section is supported from vertical and horizontal wooden poles.

Fig. 6

Embankment of a route in front of Jharkot(Dzar)
(route for pilgrims to Muktinath/Chumikgyatsa)

scale: 1 : 10 wide
1 : 20 length

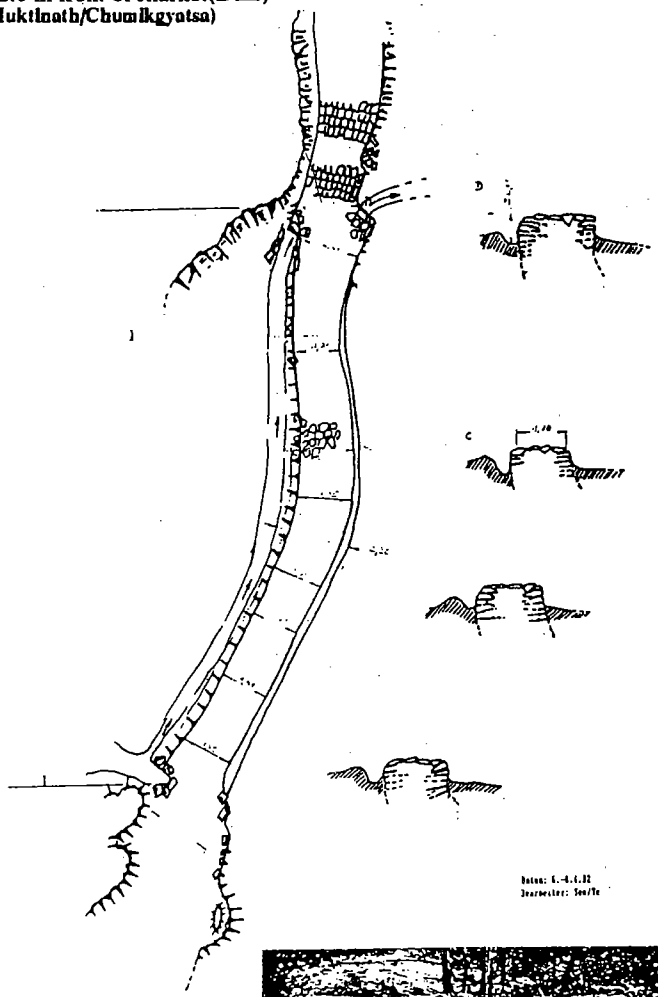
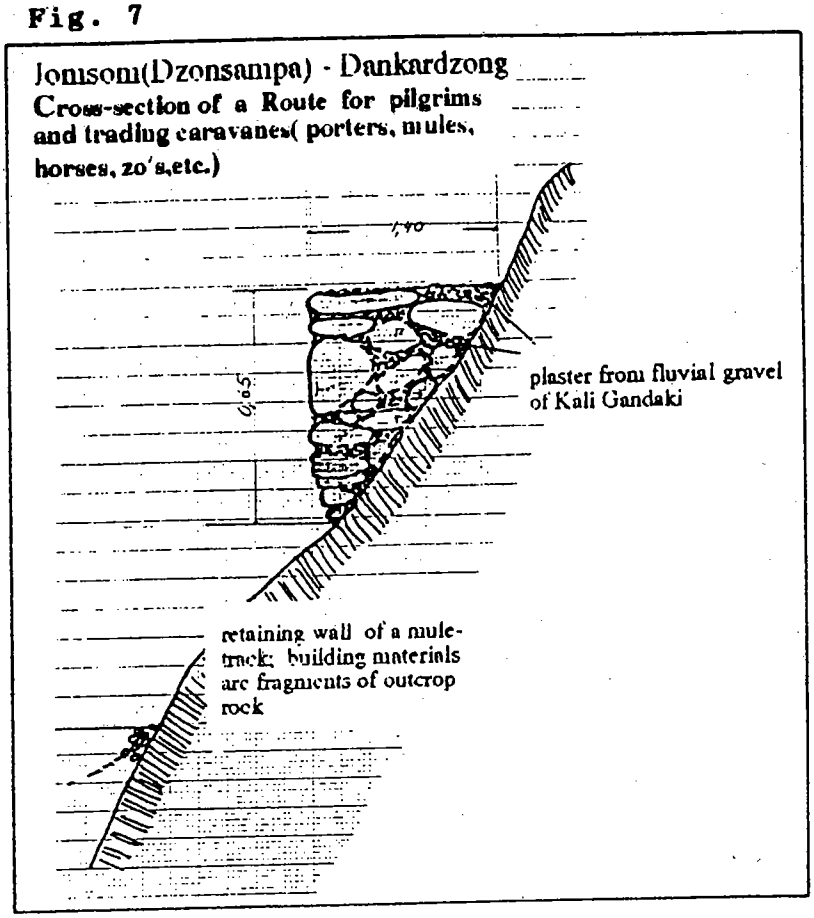
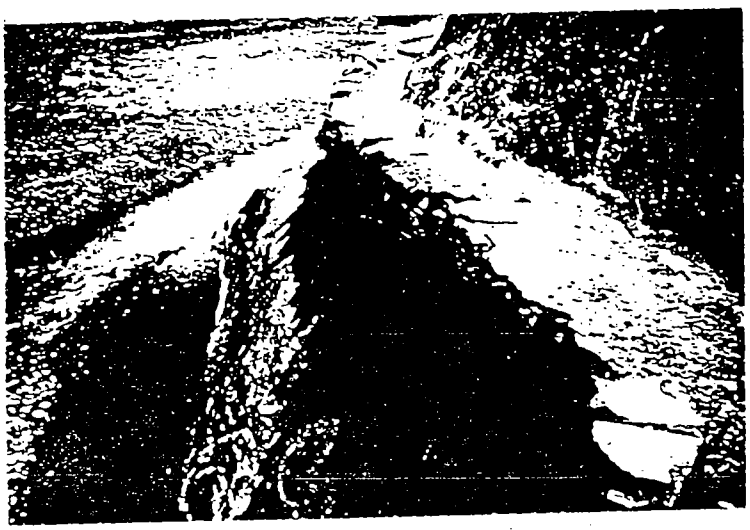


Fig. 7


Jomsom(Dzonsampa) - Dankardzong
Cross-section of a Route for pilgrims and trading caravanes(porters, mules, horses, zo's,etc.)
plaster from fluvial gravel of Kali Gandaki
retaining wall of a mule-track; building materials are fragments of outcrop rock



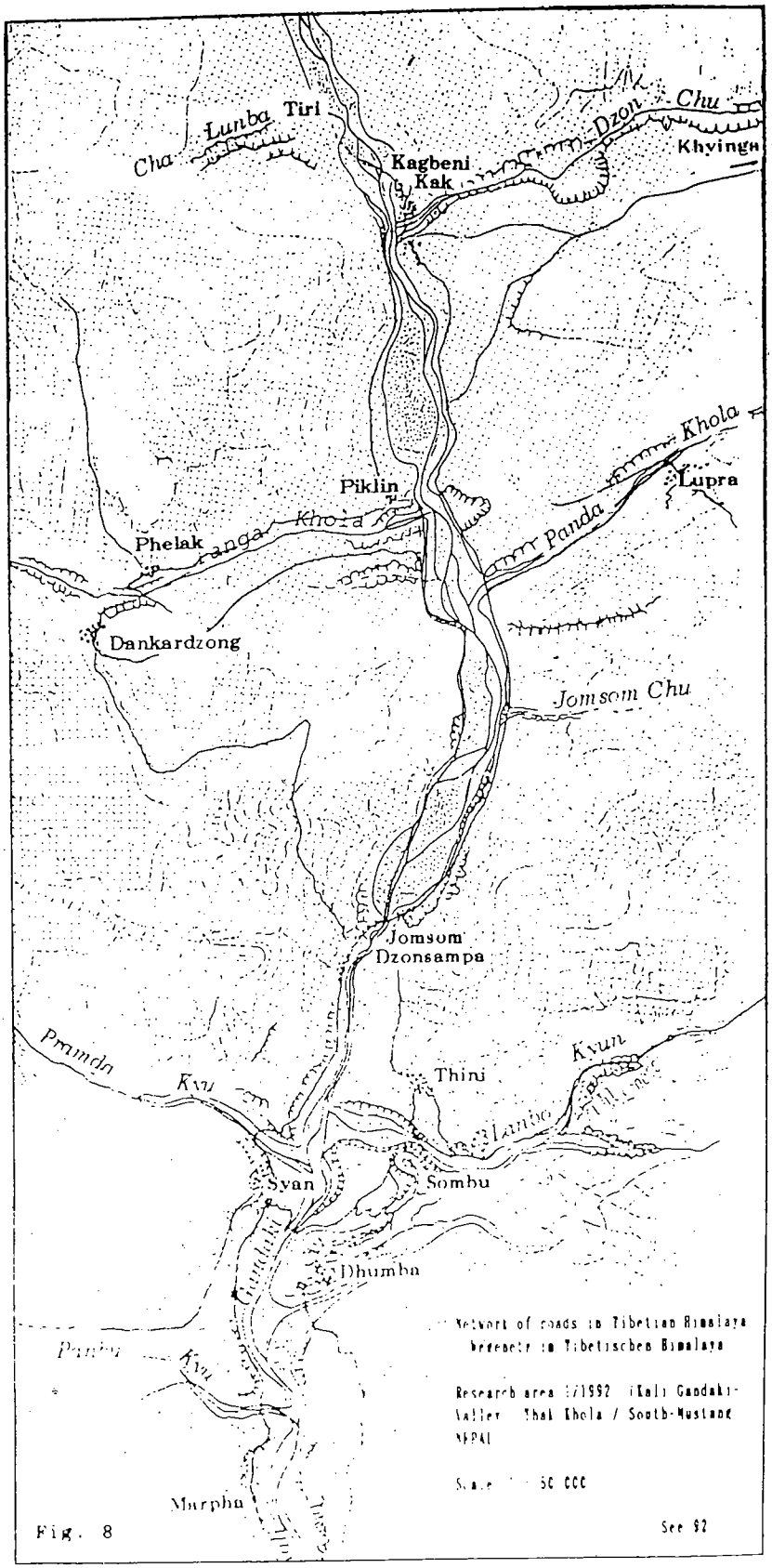

Lunba Tiri
Cha
Kagbeni
Kak
Dzon Chu
Khyinga
Khola
Lupra
Piklin
Phelak
Panda
Dankardzong
Jomsom Chu
Jomsom
Dzonsampa
Thini
Kyun
Sombu
Dhumba
Murpha
Network of roads in Tibetian Himalaya
Research area 1/1992 (Kali Gandaki-
Valley Thak Khola / South-Mustang
NEPAL
See 92

Fig. 8

A Ritual of Political Unity in an Old Nepalese Kingdom

Some preliminary observations

-Charles Ramble

1. Introduction

The impetus for the present article was provided by a document photographed in Dzar (Jharkot) in 1989 by Prof. D. Schuh. The text, consisting of eight folios in Tibetan cursive script, is essentially a memorandum of the material infrastructure of a major ceremony, involving over a dozen settlements in the region. The only date given appears on folio 3: the Fire Bull Year, which in this case may be 1877, or 1817, or possibly earlier. In any event, it is likely that the ceremony itself is considerably older.

The text (henceforth the Memorandum) is concerned primarily with the various provisions of the participant communities and the gifts to which certain protagonists were entitled. There is only incidental reference to the organisation and character of the celebrations. Surprised that an event of such scale and importance should have disappeared practically without trace from the region, I made enquiries about the ceremony in the local village, using the text itself as a point of departure. The following pages are a reconstruction of the ceremony, based on these enquiries and an analysis of the Memorandum.

A proper study of this ceremony would require a clearer knowledge of the archaic political organisation of the region, as well as a more thorough analysis of relevant liturgical texts and more extensive enquiries as to the unwritten procedures of the celebrations. While it is hoped that further research will make such an undertaking possible, the present account is not meant to be an exhaustive treatment of the subject; it is rather an attempt to isolate the main features of this ceremony, and to discuss the evolution of its political significance down to the present day.

2. The place and the people

The geographical area in question is the political entity known in Nepali as Baragaon, a group of eighteen settlements that once constituted a kingdom. The history of political relations between Baragaon and neighbouring principalities, such as Jumla, Lo and the Gorkha state, is only peripherally relevant to the present discussion. The important point is that the local rulers continued to exercise a significant degree of autonomy in the internal administration of the kingdom, and a number of political and ritual forms appear to have remained largely intact until the implementation of the Panchayat system. It was the introduction of elected local authorities that finally displaced the traditional rulers as the effective local leaders. The details concerning the relationship between the Baragaon dukes and the state of Nepal, and the erosion of their power during the Panchayat administration, await further documentary research. However, for the sake of simplicity, since the present paper is concerned with Baragaon as a royal principality, it will be referred to as a kingdom.

The people of Baragaon are grouped into five strata as follows: Nobles, Priests, Commoners, "Sub-commoners" and Artisans. (In addition to these, there are a number of Indo-Aryan occupational castes, esp. Kami and Damai.)

There is no good reason for not referring to these strata as castes, but certain points must be clarified. Castes in the Indian context are defined in terms of endogamy (not, as is often claimed, in terms of occupation: not all potters make pots, for example, and relatively few Brahmans are priests). In Baragaon there are two criteria for caste membership: endogamy and residence.

Caste status is *said* in Baragaon to be patrilineally inherited, but in fact this is not entirely true. If a man of a priestly village moves to a commoner village to marry the daughter of a sonless household, his children will be born with commoner, not priestly, status. Conversely, the offspring of a commoner man who marries into a priestly village will be priests.

It should be emphasised here that priests are not the same as monks. Monks are celibate, and are recruited from any of the higher ranks. It is usually the second son in each family who becomes a monk. Priests marry, and the eldest son in each household of a priestly community who receives religious training.

There are two priestly communities within Baragaon: Lubra and Chongkhor. Lubra is a Bonpo community, while Chongkhor is a settlement of priests belonging to the Nyingmapa sect of Tibetan Buddhism. The other main religious force in Baragaon is the Sakyapa sect of celibate monks which has three main monastic centres: in Kag, Dzar and Dzong. More will be said about these monks presently.

The nobles of Baragaon live in five mixed-caste settlements: Dzar, Kag, Dzong, Dangkar-dzong and Samar. These sites are referred to as the "capitals" (rgyal-sa) of Baragaon. There are several villages of "Sub-commoners", but only one of them, Khyinga, will be relevant here.

The way in which the stratification of the various castes is objectified, for example in differential bridewealth prestations and a range of socio-economic disparities, is a complex subject that unfortunately cannot be developed here.

3. The annual ritual for the purification of the kingdom

The ritual which formed the focus of the annual ceremony belongs to the category of rites known as *mdos* (pronounced dö). *mDos* rituals have been studied by a number of scholars, including

Giuseppe Tucci (1980), and, more recently, A.-M. Blondeau (1990). The importance of *mdos* rites in Tibetanised communities of the Himalaya have also been described by certain anthropologists, such as B. Steinmann (1992) for the Tamangs. *mDos* rites are of several sorts, and seem to have reached their greatest degree of elaboration in Bonpo literature, although a systematic study remains to be done. They may be used for a range of purposes, such as the subjugation of demons, exorcisms or, as Steinmann has found, for the worship of ancestors. The ceremonies may be truly indigenous to Tibet, since nothing corresponding to them has yet been located in Indian sources.

Here I shall concentrate narrowly on the version that was performed in Baragaon. The name of the *mdos* in this case is Charka Nakpo (Tib. *Char-ka nag-po*), and it is said to belong to the ritual cycle of the tutelary divinity gŚin-rje (Sanskrit Yama). The passage in the text which describes the construction of the effigy states that it should have a "frightening face" like Yama, but that the wole figure should be conceived as Mañjuśrī.[1] The *mdos*'s body, says the text, is Mt. Meru; he is surrounded by the four continents and his feet are under the ocean; he is crowned with the sun and moon and adorned with the eight planets, the twelve animal symbols of the calendar and other items of astrological significance, and surrounded by an assortment of divinities, birds and animals.

Without engaging in too detailed an analysis of the features, it can be seen that this description accords with informants' assertion that the *mdos* is a representation of the kingdom conceived as the whole cosmos.

All the communities in Baragaon (with certain exceptions that we shall come to presently) seem to have had a role to play in the festivities surrounding the ritual. In fact, the Memorandum opens (fols. 1-2) by listing the basic obligations of the following participant villages: Te, Taye, Tiri, Kag, Phelag, Dang-kardzong, Pagling, Khyinga, Dzar, Purang, Dzong and Putra. The reqired contributions consist for the most part of quantities of rice, barley, butter, salt, cash and meat. The little (and relatively recent) settlement of Pagling had only to pay 50 paise, and a section of Purang was required to provide firewood for making tea.

Samar, Gemi, Gyaga, Sangdak and Tshuk - the northern villages of Baragaon - are not included. The reason for their omission is not clear, since enquiries indicate that Samar, at least, did have a role to play in the ceremony. It is possible that the obligations of these outlying villages are dealt with in a separate document, perhaps kept in Samar as the "northern" capital, that has not yet come to light.

There are two other significant omissions. One is Lubra. There are two likely reasons why this settlement should be excluded. First, as a community of Bonpo priests, Lubra would have no sacerdotal role to play in an essentially Buddhist ceremony. Secondly, Lubra lies south of the Panda Khola, which is referred to in certain local documents as marking the political boundary between the territory of Thini and the domain of the rulers of the Muktinath Valley. The fact that, to my knowledge, Lubra is regarded as a part of Baragaon in all other political and social situations, may attest to the antiquity of this *mdos* ritual, if not necessarily that of the Memorandum itself.

The other community that is conspicuous by its absence is Chongkhor. In this case, the absence is precisely because of the importance of the settlement to the ceremony, since the priests of Chongkhor were charged with performing the ritual itself. They provided religious services, and received gifts in return. The reverence accorded to these priests is clear at several points in the memorandum. Thus during a dance performance

in Dzong:

> The lama (the senior priest of Chongkhor) shall be given the use of a fine carpet to sit on and a folding table, a long-stemmed cup with a saucer, a teapot of tea and a bowl of tsampa. The dbu-mdzad, the cha-dpon and the senior gyiṅ-pa[2] shall each have one pot of tea and a box of tsampa, an individual seating carpet and a small folding table. The rest (of the priests) shall have one teapot and one box of tsampa (between them). As for beer, the lama shall receive a brass bowl with butter ornamentation. The three (i.e., the dbu-mdzad, the cha-dpon and the senior gyiṅ-pa) shall receive a bowl of beer, and the rest shall have a large flask of beer (between them) (fol. 4).

The services of the ordinary priests of Chongkhor were also rewarded:

> For the part they play at the beginning and end of the ceremony, the priests (*dbon-po*) shall be paid: 18 measures (*zo-ba*) of tsampa; 13 measures of barley; the upper part of the carcass of a goat or a sheep; 1 (or 2? text unclear) measures of butter, and 1 measure of salt (fol. 3).

In addition to the central figure of the *mdos*, a number of other effigies were made, representing the illnesses and sins that had accumulated over the course of the year, and these were deposited in the wicker enclosure surrounding the *mdos*. (The liturgical text also specifies the effigy of a Bonpo, an indication of the undercurrent of perennial hostility between Buddhist and Bonpos in the area.) The Memorandum specificies precisely how much material should be used in the construction of certain images. The specification of bitter buckwheat flour "for the construction of the male and female figures" (fol. 3) suggests that these figures may be exorcistic effigies (*glud*).

At the end of the ceremony, on the 29th day of the twelfth month, the *mdos* would be taken outside the village in a direction determined by astrological computation and destroyed at a crossroads. The computation, and perhaps calculations of other auspicious dates connected with ritual, were also performed by the lama of Chongkhor. The Memorandum suggests that the protocol of requesting the lama for his services followed the normal procedure of accompanying the formal request with a flask of alcohol.

> When requesting the divination, one ceremonial vessel (of beer) should be presented. After that (the vessel) should be brought back (to Dzong) (fol. 4).

The same passage further informs us that the lama and the other hierarchs were paid for this service with lengths of cloth. Later in the text we are told that the lama should be given an additional payment, although it is not clear whether the divination in question is the same as the one referred to above:

> The lama shall receive, as a token of thanks for having performed the divination, the front part of the carcass of a goat or sheep, and the right half of the head (of a goat or sheep) (fol. 5).

Now the *mdos* was regarded as a very dangerous object, charged as it was with the concentrated afflictions of a whole year, and precautions had to be taken in order to prevent the harmful power turning back on the village. It is normal practice, even in minor exorcisms, for one person to follow the carrier of the effigy out of the village brandishing a knife or a khukhuri

and admonishing the malign spirits not to return to the house. Clearly, something more than a single khukhuri is required in the case of the *mdos*.

Each of the five capitals was required to send a number soldiers to Chongkhor to perform this function. There are a number of details here which remain to be clarified. First, the etymology of the term for soldier given in the Memorandum is obscure, not least because of the irregularity in the orthography: *rgya-dmag-pa* and *brgya-dmag-pa*, as well as variations on these spellings. The former might, among other things mean "Chinese soldier" (*rGya-nag-gi dmag-mi*), while the latter could signify a centurion (*brgya*: one hundred), but this is entirely conjectural. Secondly, the number of soldiers is not certain. Kag and Dzar are said to have provided four each, but the other capitals may have furnished a smaller number. The text does not enlighten us on this score, and inquiries yielded inconsistent responses.
Whatever the case, these soldiers would accompany a representative of the ruler to Dzong, where they would be received with honours. Apart from their role as bodyguards, the main function of the soldiers was to follow the *mdos* out of the village, in a line, with drawn swords, to prevent its return. In a ritual sense, then, the nobility - the representatives of the five capitals - had the task of protecting the kingdom from harmful agencies.

As we might imagine, the soldiers, and more particularly the nobility whom they accompanied, were treated with considerable hospitality during the ceremony. The titles of the rulers given in the Memorandum are the *sku-tshab* and the *dpon-tshab*, terms which imply respectively representatives of the *sku-źabs* and the *dpon-po*. I shall not speculate on who precisely these figures were, or which power they represented. The matter is discussed in a forthcoming work by Prof. D. Schuh. For the purposes of the present study, the important point is that they stand for the regional political authority.

> When the *sku-tshab* comes to Dzong, the constables (*rol-bu* for *rol-po*) should contribute beer for the lord and his retinue. The monks should contribute two flasks of beer for the lord and his retinue. ...Purang should contribute beer made from six measures of barley for the *dpon-tshab* and his military escort (*brgya-dmag*). ...When the *sku-tshab* departs the man from Purang who leads the horse shall provide: fodder for the journey and beer, one flask for the lord and one for his retinue. When the lord arrives in Purang, he should be provided with an individual seat, while the representative of the chaplain (? *bla-tshab*) and the armed escort should be provided with a single row of seats. Moreover, one-and-a-half measures of beer for the lord and his retinue should be supplied (fol. 3).

In Dzong itself,

> The *sku-tshab* and his retinue shall (have the use of) one house, which should contain: 1 folding table, one individual seat, 1 seat for a row of people, and a votive lamp capable of burning through the night. The leader should have one measure of rice for his evening meal, and his armed escort shall have 3 measures of rice: they shall have an unlimited supply of beer (lit. "a vessel of 'water' from which their mouths shall never be empty"); at bedtime, the armed escort and the *sku-tshab* shall have one flask of beer each. On the 30th day, in the morning, the *sku-tshab* shall have one bowl of tsampa with a daub of butter and a flask of beer for his breakfast (fol. 5).

Apart from the various material contributions

detailed in the documents, the Commoners also had an important role to perform during this ceremony. They did not come to Dzong, but within their own villages would perform special dances and sing songs. The Commoner women would sing three long songs, a cycle called "The songs for the king and the nobility" (*rgyal-glu dpon-glu*). Regrettably, it seems that the words have now been lost, but it is clear at least that they formed a kind of panegyric to the rulers of the kingdom. In Dzong itself the young men and women who danced in front of the guests of honour were rewarded with a length of cloth each (fol. 4). They were also given tea at public expense (fol. 7), and in the concluding stages, small gifts of money and ceremonial white scarves (fol. 7).

The priests performed the ritual and read the liturgy; but they did not carry the effigy out of the village for disposal. The removal of the *mdos* and its noxious contents was the responsibility of Khyinga, the "Sub-commoner" village mentioned above. This is one of the few performative aspects of the ceremony to which the Memorandum refers: "the people who carry the great *mdos* shall indeed be the people of Khyinga" (fol. 3). Later on we are informed that the two individuals who carried the effigy out should receive a length of cloth each (fol. 5). By avoiding the performance of this demeaning part of the ceremony the priests were able to offset any ambivalence inherent in the duty of purifying the kingdom. Their status was not threatened by their occupation.

4. The appropriation of the *mdos* and other rituals

4.1. Domestic rites

In addition to the *mdos* ritual wich they perform as a corporate community, the Chongkhor priests used to have traditional relationship with patrons in neighbouring communities of the kingdom. They would visit these households annually to perform propitiatory rites for the domestic gods of the owners. The Sakyapa monks have gradually managed to persuade these householders to transfer their patrobnage from the Chongkhor priests to the monks themselves. Thus the capital Kag no longer receives the services of any Chongkhor priests. Among other things, the transfer has entailed a change in the divininies being propitiated. The tutelary god gŚin-rje has been replaced, in all these households, by the goddess dPal-ldan Lha-mo, who is favoured by the Sakyapas.

4.2. Animal sacrifice and community solidarity

In addition to the presence of Bon and Buddhism, Baragaon bears traces of what we might think of as the indigenous religion of the area. Animal sacrifice - widespread in pre-Buddhist Tibet - appears to have been practised in all villages of the kingdom (with the exception of Chongkhor, which was established specifically as a Buddhisf community). The missionary activities of a range of Buddhist and Bonpo lamas has put an end to the sacrifice of animals in all the Baragaon communities (with a single exception which will not concern us here). A brief examination of the decline of blood sacrifice in Kag reveals that the Buddhist suppression of the practice is motivated by factors other than simple compassion for living beings.

Until approximately fifty years ago, annual blood sacrifices were performed in Kag. Three times a year a sacrificer known as the *aya* (Tib. *a-ya*)[3] would visit the capital to offer sheep, goats and a yak to the local divinities (*pho-lha* and *jo-bo*). The most important of these was the yak sacrifice, which was referred to as the Loyak.[4]

After an examination of the liver and entrails the *aya* would make predictions concerning the type of maladies that might afflict the community's people, crops and livestock in the coming year. Each of Kag's households would then receive a piece of the meat, known as a "divine token" (*lha'i-rtags*, corresponding roughly to the Nepali *prasād*). The reception of this token was the criterion for each household's inclusion in the social life of the community. Thus if a house were somehow overlooked during the distribution, its members were not obliged to perform any community services, such as labour on village trails and irrigation systems, and they would be exempted from occupying onerous offices such as headmanship, stewardship and the like.

All the annual sacrifices were stopped by a missionary lama from Goyag Monastery in Tibet. But the propitiation of the village gods was not abandoned altogether. The Sakyapa monks of Kag took over the performance of the Loyak, but imposed certain changes. A real yak is not killed, but instead a dough effigy of the animal is cut up at the old sacrificial site and, as with the yak meat in the past, pieces of the dough are distributed to all the households. The portions are also called "divine tokens", and, as in the past, failure to be given a piece entitles a household to stand down from all community obligations for the year.

The conclusion to be drawn from this change is that the monks have taken over the ritual articulation of the communal unity of Kag. It is certainly no accident that of the three sacrificial rituals that were held in the capital, it is the one which carries the greatest significance for the cohesion of the community that has been perpetuated by the monks.

4.3. The *mdos* ritual

As stated above, the royalty of Baragaon retained a considerable measure of autonomy in the administration of the kingdom until the early sixties, when the implementation of the panchayat system provided both an alternative local administration and a more direct link with the central government of Nepal. It is only after this time that the annual *mdos* ceremony appears to have gone into decline. The political redundancy of the ritual, exacerbated by a critical dispute between Chongkhor and Dzong, undermined the unifying effect of the events. The rite is still performed annually, but in Chongkhor, without the presence of other villages. Most important, The soldiers and royal emissaries have ceased to attend. The local celebrations by the Commoners have been abandoned in all but two of the villages.

But a soldier is required to follow the effigy out of the village for disposal, and in the absence of soldiers from the capitals one of the Chongkhor priests must himself play this role. Dressed as a soldier, he enters the temple where the priests are assembled and is greeted with a parody of the respectful welcome accorded to the real soldiers in the the past. "You have come all the way from Samar," they might say. "You must be tired. Sit down and have some beer."

The political relevance of the ceremony for the kingdom has vanished. Nevertheless, the rite retains considerable importance for the Chongkhor priests. The ascription of status, as stated above, is based primarily on residence, and only to a lesser extent on descent. Occupation is not a criterion. However, in order to justify the ascription of priestly status to individuals born in a community, there is a feeling that the village in question must have some kind of corporate priestly function. I have discussed this problem elsewhere as it relates to the settlement of Lubra, and shall not undertake a detailed examination of the problem here (Ramble 1990).

The abandonment of the *mdos* ritual would deprive the Chongkhor priests of the single most

important expression of their corporate priestly status in the caste configuration of the kingdom. But their position has been weakened by the fragmentation of the ceremony, and the redundancy of the priests is now being precipitated by a shrewd bid for power on the part of the Sakyapa monks.

The Sakyapa community in Baragaon is focussed on three of the capitals, Dzar, Kag and Dzong, which contain monastic centres (*chos-sde*). Since the collapse of the ritual unity of the kingdom, the clergy is the only entity which exercises any king of unifying ceremonial influence over a large section of Baragaon. The three capitals form the nuclei of "parishes" which comprise the remain villages as follows:

1. DZAR, Purang, Khyinga
2. KAG, Tiri, Phelak, Pagling, Dangkardzong
3. DZONG, Putra, Chongkhor

Monks in the subsidiary villages are attached to their respective parish capitals, and patronage from the laity is also organised within the respective subgroups.

In 1989, the Sakyapas implemented a new ceremony, to be held annually, at which the monks of all three parishes were to be present. The ceremony was a *mdos* rite for the purification of the settlements grouped under Dzar, Kag and Dzong - in other words, the entire Tibetan-speaking portion of the kingdom of Baragaon. The intention was to rotate the venue annually in a three-year cycle around the three capitals.

The first ceremony was held in Dzar. The monks of all three capitals were present, but only the laypeople of Dzar parish were required to provide material support and to perform the various duties required in the performance.

The second ceremony was held in Kag in 1990. In 1991 the venue was Dzong, which includes Putra and Chongkhor in its parish. It was remarked to me that the decision to hold the first and second gatherings in Dzar and Kag respectively was especially shrewd: by the time Dzong's turn came the ceremony was already fairly well-established as an annual event, and the Chongkhor priests would have more difficulty in protesting against something that had already acquired a certain momentum.

The *mdos* in question is not the same as that performed in Chongkhor. It belongs to the ritual cycle of the tutelary god Phurba (Phur-pa), over which the Chongkhor Nyingmapas have no ritual authority to officiate. As a purificatory rite for the old kingdom, then, the Sakyapa *mdos* is in direct competition with that of Chongkhor, with the difference that the former is more societally relevant since it involves the participation of a large section of the old kingdom.

An important difference between the two ceremonies is the composititon of the lay officiants. Whereas the old "royal" *mdos* was based on the ritual division of labour among different castes, the Sakyapas designate responsibility without attention to such considerations. When the *mdos* was held in Dzong in 1991, the monks declared that the carriers of the effigy - a role reserved for the lowerst participant caste in the royal version - should be priests of Chongkhor. The demand was clearly an attempt to demean the Chongkhor priests and thereby further to dismantle the caste structure of the old kingdom, which is preceived as an impediment to the religious monopoly of the monastic community and hence, among other things, their access to patronage.

In the event, the Chongkhor priests adamantly refused and the monks conceded to the refusal: they were probably expecting such a response. But they warned the priests that, when the ceremony came around to Dzong again three years thence, the priests would have to carry the

effigy, or else the monks would withdraw the religious services that they currently provode for Chongkhor: they will not perform *kurim* (*sku-rim*) ceremonies to which they are invited, they will refuse to officiate at funerals, and so on.

The Chongkhor priests have effectively been threatened with excommunication from the Sakyapa religious hegemony over the kingdom. It will be interesting to see how Chongkhor responds to this ultimatum in 1994.

5. Conclusions

A few brief conclusions may be drawn from the ethnographic case described above. First, the political organisation of the kingdom of Baragaon conforms very closely to the structure of caste society as defined by Hocart, and to this extent it bears numerous similarities to kingdoms such as the Kathmandu Valley under the Mallas, or pre-colonial India. How far Baragaon is typical of other Tibetan-speaking areas will have to be judged on the basis of further research. Secondly, caste society so defined is by no means intrinsically Brahmanical. The important feature is the close association between the ruler - usually a king - and the priesthood, whether Hindu or Buddhist. The priests legitimate the ruler's force, but their exercise of ritual power (and therefore the access to material resource granted by this role) is made possible only by the authority of the ruler: the political influence of the religious forms derives from the ruler himself. Finally, the social persuasiveness of symbolic activities can be transposed with relative ease onto a changed political setting. As in the case of Nepal as a whole, it is not an ideology or religion that affects the material circumstances of its adherents, but the intentions of the people who manipulate it.

Notes

1. It may be mentioned that the wrathful form of Manjuśrī is Yamāntaka, the "Slayer of Yama", who also has a bull's head.

2. These three terms designate various figures in the priestly hierarchy of Chongkhor.

3. This term appears in certain Bonpo texts, such as the *gZi-brjid* and *gZer-myig*, to denote a category of priests in the old kingdom of Zhang-zhung.

4. The etymology of this term is not entirely certain. One possible meaning is "the harvest-time yak" (*lo[-thog-gi] g.yag*). However, in normal Tibetan usage, as Christoph Cüppers has pointed out to me, the expression means literally "good harvest" (*lo[-thog] yag[-po]*). The term *yag-po* for "good" is not used in the Baragoan dialect (*dga'* is the normal word), but this does not obviate the possibility of it having been introduced in the region as part of the stock compound expression *lo-yag*. I have seen this ceremony referred to in only one local document, an old tax register from Kag. The orthography given here is *lo-dbyag*, an incorrect spelling that does not help to solve the problem.

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Chörten in Mustang

A preliminary architectural account of chörten (mchod-rten) with special reference to the chörten of the cave at Luri.

-Niels Gutschow

The following account of the *chörten* of Mustang is based on field trips to Kag in October 1991 and to upper Mustang in April 1992. Altogether some 50 villages were visited in order to obtain an overview of the variety of building types and their representation in different parts of the district.

The cave at Luri was surveyed on April 20, the name Kakom for that cave is preliminary and might prove misleading. The survey of chörten - architecture will be extended in June 1993.

Altogether some 300 to 400 *chörten* may be identified in lower and upper Mustang. These can roughly be divided into two main groups. The more general type is square and has two or three storeys, the roofs of which are more or less articulated. They are 150 to 300 cm high, not taking into account the central pillar (*srog-śiṅ*) emerging from the top. Only a few of these (for example at Giling or Lo Mantang) are 400 to 600 or even 800 cm high to exceed the dimensions of votive offerings, constituting already a building of monumental size. They are found in almost every location: along the road, in continuation of a *maldang* (mani wall), in the centre of villages, on hillocks and along ridges that define an edge or border. Most of these may be classified as votive offerings to protect a territory and as such they are in most cases grouped in rows of three and collectively called *Rigsum Gönpo* (*Rigs-gsum mgon-po*).

Literally, these three *chörten* are the three (*gsum*) protectors (*mgon-po*) of the families (*rigs*) of Bodhisattvas identified as Vajrapāṇi, Mañjuśrī and Avalokiteśvara. On yet another level of interpretation the three *chörten* represent classes of demons and gods: the serpents (*nāga = klu*), divinities who dwell in rocks and the air (*btsan*) and finally the gods (*lha*). *Rigsum Gönpo* are placed beyond the field, at topographically prominent points and places, at the eaves of houses and, in tiny representation (20-30 cm high)

above gates and doors. On yet another level, the colours of the three protectors, black, red and white, may be found vertically as stripes on any buildings or walls and even natural rocks, or as horizontal elements on larger *chörten*. In that cases, the large cubes are always white, the eaves red. The colours change considerably throughout the district, thus reflecting the availability of material. Black changes into blue or even green (in Tangye), while red may be replaced by yellow. The two examples presented here are to a large extent architecturally articulated. They document at the same time possible variation: the *chörten* at Dankgardzong stands in a group of five on the edge of the village along the road leading south. Placed on a rough plinth the two-storeyed building reaches a height of 200 cm, the emerging trunk of pinewood adding another 160 cm. In design the *chörten* does not follow the usual sequence of base, dome, cube and finial, but consists of two storeys of diminishing size. Every storey is topped by a roof with projecting eaves. Above a layer of mud coloured red follows a layer of brushwood that protects the mud against water seepage. On top of brushwood follow wooden planks that are stabilized by rocks and stones with votive inscriptions. The lower storey has stylized lotus leafs on its corners and shallow niches on each side. Leaf patterns frame the niches that do not contain any iconographical figures. The *chörten* at Lubra stands just beside the meditation-cave of Trashi Gyaltsen (*sGom-phug dgon-pa*). It was built only a few years back and introduces some structural innovations. Placed on a three-stepped plinth the lower cube of the two-storeyed building is slightly tapering. The projecting 'roofs' rests on cantilevers that support wooden planks. Slanting stone slabs cover the projecting eaves. The central pillar (*srog-śiṅ*) emerges only slightly. In its design it follows a well known formula, indicating motifs of the jewel and container (*kalaśa*). A rare variation of this general type of *chörten* is presented by a building in Dankgardzong. Above a low square plinth that for its most part submerged in a slope, rises a towering building of six levels. This circular structure is not orientated towards the directions of the cosmos. Altough being stepped it recals the purpose of the primeval mound, the stabilization of the central pillar, the Tree of Life.

The second type of *chörten* has a bulged dome as the common denominator. This dome is invariably protected by a roof supported by pillars. This protected dome seems to be the peculiar contribution of Nepal's North to the architecture of the *stūpa*. Similar *chortens* are also found in the neighbouring regions of Manang and Dolpo as well as in Mugu and Humla. Some 45 examples have so far been identified in Mustang. About twelve others around Lo Mantang and Yara are in ruins.

Among the domed *chörten* a marked variation occurs. Nine are built as doorway-*chörten*, called *kennen* (in southern Mustang) or simply the '*chörten* with legs'. All of these mark the entrance into the villages, in two cases (Tangye and Tsarang) they mark the entrances along the main route at two sides of the settlement. In all cases the square space above the passage has wall paintings and the panelled ceiling is painted with thirteen *maṇḍalas*. The dome contains a chamber for ritual offerings (tsa-tsa, manuscripts, etc) and bears a square cube (*harmikā* = *bre*). The spire with thirteen umbrellas or wheels rest on a circular support, in most cases in the shape of a lotus flower. The central pillar (*srog-śiṅ*) rises above the central *maṇḍala*, resting upon a transverse beam. Four steps mediate between the plinth of the *chörten* and the dome that rests on a lotus socle. The square shape of these steps

allows us to indentify this type as the mahābodhi stūpa that recalls the event of thc enlightenment of the Buddha at Bodhgaya. This *stūpa/caitya* is one of the eight *mahācaitya*, that survived as groups in Mustang at Tangye (two rows of four) and in Lo Mantang (one row of eight small ones and one row of larges ones of which only four remain).

Cave and *chörten* (mchod-rten) at Luri

A *maṇḍala* on the roof of the cave, suggesting a canopy above the focal, may be considered the central demonstration and key to the iconographical program of the cave. In the center, a female Bodhisattva is depicted. She is surrounded by eight other female Bodhisattvas arranged as the petals on a flower. The perimeter of the *maṇḍala* follows a conventional formula, while further down the ceiling of the cave a series of Aṣṭamahāsiddhas provides another horizontal register, united by a continuous foliage pattern like a creeper. Among the Aṣṭamahāsiddha only two have so far been indentified: Luhipa, the Siddha who swallows fish intestines and is known as Matsyandranātha in Nepal; another is Dombipa on lion mount.

The umbrella atop the *chörten* is painted on the downturning surfaces showing eight figures on lotus petals, possible the Tathāgatas. The sixteen leaves which hang from the disk, bear alternating female attendants (*upacārika*) and decorative motifs.

The second level of iconographic representation is found on the cube (*harmikā*) above the main dome of the *chörten*. Tiny Tathāgatas people the diminuative *harmikā*, only 12 centimeters high. In an unusual arrangement, Vairocana occupies the east side in a gesture of *dharmacakramudrā*, while Amitābha, Ratnasambhava, and Amoghasiddhi are found on the west, south, and north side, respectively.

The main dome (*bum-pa*) displays two Bodhisattvas, Vajrapāṇi, invariably associated with the Tathāgata of the north, and Padmapāṇi, the Bodhisattva of Amitābha. A female Bodhisattva is painted on the east side of the dome; the damaged painting on the remaining south side makes identification difficult. Uṣṇīṣavijayā to the east embodies the female aspect of compassion and is regarded as the mother of all Buddhas, the queen of englightenment. The female aspect of the *chörten*'s iconography is thus reiterated on many levels, as first suggested by the ceiling *maṇḍala*.

The plinth (*bong-bo*, but invariably called *bang-rim* in Lo) in *viṃśatikona* shape displays the four Guardians of the world, the Lokapāla on the four central projecting areas. They are flanked by the eight auspicious symbols, the aṣṭamaṅgala. Vaiśravaṇa with his banner turns north; Dhṛtarāṣṭra with musical instrument east; Virūḍhaka with sword south; and Virūpākṣa with a *chörten* in hands west. The eight corners of the plinth display the Guardians of Religion, the Dharmapālas. The goddess on the northwest corner may be preliminarily identified as Śaṃkhapālī Devī riding a horse on water. The water is easily recognized and confined to the area just beneath the horse. On the eastern side, two Mahākālas are found; on the southeastern corner possibly Raudrāntaka Mahākāla, riding a lion. Since damage from a landslide in 1972, the paintings on the southwest corner have not been renewed.

The wall of the cave remains painted only on the western end, while all other areas are blackened, with no figural representations surviving. On this western wall, five figures enthroned on lotuses are found from left to right: a Lama (?); Buddha Śākyamuni flanked by two disicples; an unidentified Bodhisattva with two vajras; Vajrapāṇi with a vajra, upright in this right hand and bell in his lap; and lastly, Acala with sword and noose in his right and left hands, respectively. These five figures are framed to create the impression of a wall panel 190 centimeters high. This panel follows the surface of the cave forward in space to create an apse-like zone.

These paintings - of extraordinary quality - have been preliminarily date to the early 14th century by Roberto Vitali. Although his assignment is based only on photographic evidence, his familiarity with comparable Tibetan wall paintings is well established.

The style of the paintings represents a peculiar blend of influences from Nepal to the south and Tibet and China to the north. While the Bodhisattvas of the wall and *chörten* dome suggest Newar influence, the Guardians of the World, found on the plinth in armoured dress and Chinese attire, exemplify an artistic convention which clearly originated in China and eventually even came to the Kathmandu Valley.

Although a detailed stylistic analysis cannot be attempted within the scope of this paper, it should be suggested that this site at Lo may prove an important link to study further the exchange of artistic traditions between Newars in Kathmandu Valley and the painters of China and Tibet.

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'प्राचीन नेपाल'का निमित्त प्राग्-इतिहास तथा पुरातत्व, लिपिविज्ञान, हस्तलिखित ग्रन्थ, मुद्राशास्त्र, अभिलेख, संग्रहालय तथा ललितकलासंग सम्बन्धित मौलिक रचनाको माग गरिन्छ ।

रचना संक्षिप्त तर प्रामाणिक हुनुका साथै अद्यापि अप्रकाशित हुनुपर्दछ । तर कुनै प्रकाशित विषयका सम्बन्धमा नयां सिद्धान्त र प्रमाण प्रस्तुत गरिएको भए तिनको स्वागत गरिनेछ ।

रचनासंग सम्बन्धित चित्रहरु पठाउन सकिनेछ । रचना पृष्ठको अग्रभागमा मात्र लेखिएको हुनुपर्नेछ । प्रकाशित लेखहरुमा व्यक्त गरिएको भावना वा मत सम्बन्धित लेखकको हो ।

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